TC-WR10ES/WR810

SERVICE MANUAL

US Model
TC-WR10ES/WR810

Canadian Model

AEP Model

UK Model

TC-WR810

E Model



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PHOTO: TC-WR810

Model Name Using Similar Mechanism	New Mechanism
Tape Transport Mechanism Type	WR10ES, WR810 : except for US Model TCM-170RB12
	WR810 : US Model TCM-170RB14

SPECIFICATIONS

Recording system

4-track 2-channel steteo

Fast winding time

Approx. 90sec.(with HF-60 cassette)

Bias AC Bias

Signal-to-noise ratio (NAB, at peak level)

Dolby NR switch Cassette	OFF	B-TYPE ON	C-TYPE ON
TYPE IV(Sony METAL-ES)	58dB	65dB	71dB
TYPE II (Sony UX-S)	57dB	64dB	70dB
TYPE I (Sony HF-S)	54dB	61dB	67dB

Total harmonic distortion

1.0% (with Sony METAL-ES cassettes)

Frequency response (DOLBY NR OFF)

TYPE IV cassette (Sony METAL-ES)	20-20,000Hz (±3dB) (WR10ES, WR810: except for US Model)
	30-18.000Hz (±3dB) (WR810 : US Model)
	30-15,000Hz (OVU recording)
TYPE II cassette (Sony UX-S)	30-17,000Hz (±3dB)
TYPE I cassette (Sony HF-S)	30-15,000Hz (±3dB)

Wow and flutter 0.09% WRMS (NAB)

Inputs



Line inputs	Sensitivity	77.5mV (-20dB)	
(phono jacks)	Input impedance	50k ohms	- 1

Outputs

Line outputs	Rated output level	0.44V (-5dB) at a load impedance 47kohms
(phono jacks)	Load impedance	Over 10kohms
Headphone output (stereo phone jack)	Output level	-28dB at 8ohms (WR10ES, WR810: excet for US Model) 0-0.3mW at a load impedance of 32ohms (WR810:US Model)

General

Power requirements

US, Canadian Model: 120V AC, 60Hz AEP Model: 220V AC, 50/60Hz UK Model: 240V AC, 50/60Hz

E Model: 120-220-240V AC adjustable, 50/60Hz

Power consumption

30watts

Dimensions

Approx. $430 \times 118 \times 275$ mm (w/h/d) (17×4 ×10 inches)

including projecting parts and controls

Weight Approx. 4.6kg (10 lbs 3 oz)

Supplied accessory

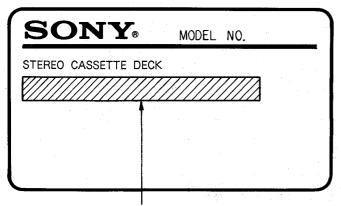
Audio connecting cord (2)



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-MODEL IDENTIFICATION-

(Specification Labal)



US, Canadian model: AC 120V 60Hz 30W

AEP model: AC 220V~50/60Hz 30W UK model: AC 240V~50/60Hz 30W

E model: AC 120, 220, 240V~50/60Hz 30W

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK A OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SAFETY CHECK-OUT

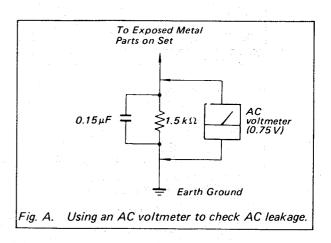
After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

- A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
- A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
- 3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

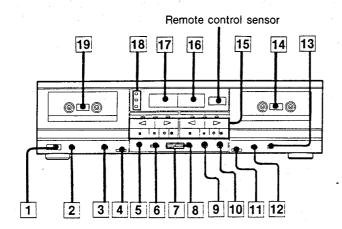


ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ASUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1 GENERAL

Front Panel Parts Identification



- 11 (eject) button (deck B)
- 12 DOLBY NR switch
- 13 MPX FILTER switch
- 14 Cassette holder (deck B)
- 15 Tape operation buttons and direction mode indicators
 - ◄ (leftward fast winding) button
 - >> (rightward fast winding) button
 - ► (forward play) button
 - ◄ (reverse play) button
 - (stop) button
 - 11 (pause) button and indicator
 - O REC MUTE (record muting) button
 - REC (record) button and indicator

- 1 POWER switch
- 2 TIMER switch
- 3 DIR (direction) MODE selector
- 5 PHONES jack (stereo phone jack)
- 6 AMS (Automatic music sensor)/BLANK SKIP button and indicator
- 7 SYNCHRO DUBBING buttons and indicators
 HIGH SPEED/NORMAL SPEED
- 8 A + B REC (record) button and indicator
- 9 BALANCE control

Adjusts the right-left balance during recording.

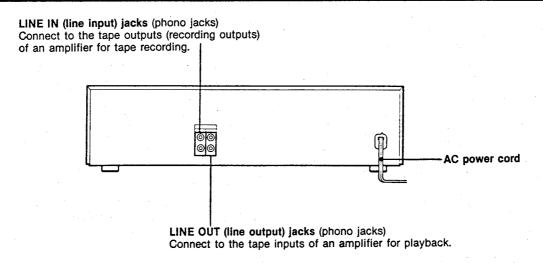
- 10 REC LEVEL (recording level) control
- 16 PEAK LEVEL METER
- 17 DIGITAL COUNTER
- 18 COUNTER buttons

RESET button/MEMORY button A/B button

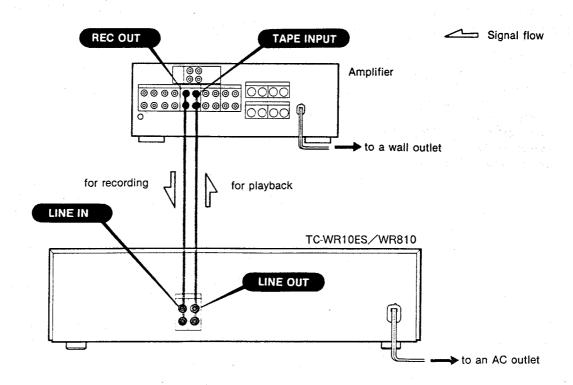
19 Cassette holder (deck A)

Connections

Rear Panel Parts Identification



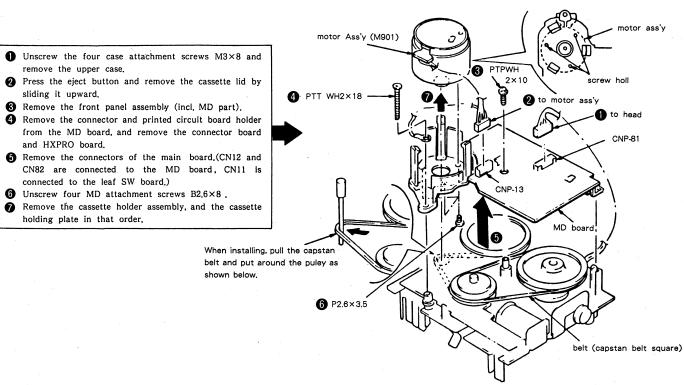
Basic Connection

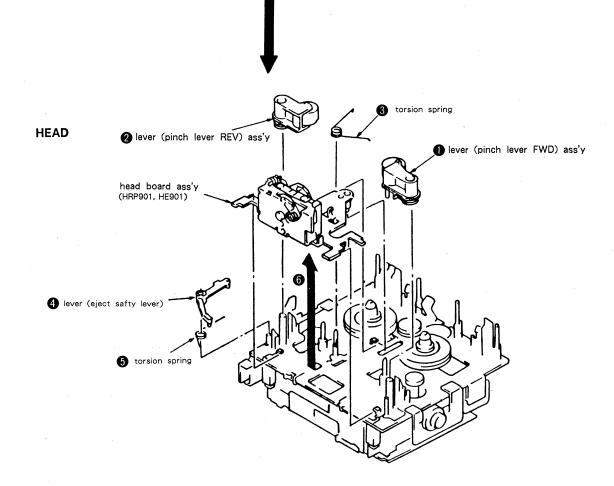


SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

MOTOR





SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head erase head

pinch roller rubber belts

capstan

idler

- 2. Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- 4. After the adjustments, apply suitable locking compound to the perts adjusted.
- 5. The adjustments should be performed in the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	27 to 75g · cm (0.38 to 1.04 oz · inch)
FWD Back tension	CQ-102C	1 to 10g · cm (0.014 to 0.13 oz · inch)
REV	CQ-102RC	27 to 75g · cm (0.38 to 1.04 oz · inch)
REV Back tension	CQ-102RC	1 to 10g · cm (0.014 to 0.13 oz · inch)
FF, REW	CQ-201B	95 to 165g · cm (1.33 to 2.29 oz · inch)

3-2 ELECTRICAL ADJUSTMENT

Note: The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording.

The adjustments should be performed for both L- CH and $\operatorname{R-CH}$.

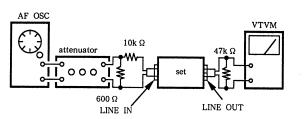
 Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch : OFF
DIRECTION switch : OFF
TIMER switch : OFF
MPX FILTER switch : OFF

• Standard Record:

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level,

-Record Mode-



Standard Input Level

input terminal	LINE IN
source impedance	10k Ω
input level	0.25V (-10dB)

Standard Output Level

output terminal	LINE OUT
load impedance	47k Ω
output level	0,44V (-5dB)

Test tape

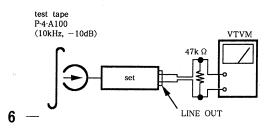
·	·	
Туре	Signal	Used for
P-4-A100	10kHz, -10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

DECK A DECK B

Procedure:

1. Mode: FWD playback



2. Turn levels. screw 1dB.

idB.

L-CH peak

3. Phase
Mode:

test tape
P-4-A100
(10kHz,

J

4. Set in5. Aftercompound

Adjustment

SECTION 3 DJUSTMENTS

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3-2 ELECTRICAL ADJUSTMENT

Note: The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording.

The adjustments should be performed for both L-CH and R-CH.

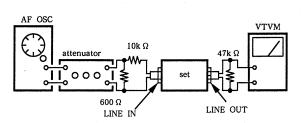
· Switches and controls should be set as follows unless otherwise specified.

> DOLBY NR switch DIRECTION switch : == TIMER switch : OFF MPX FILTER switch : OFF

Standard Record:

Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

-Record Mode-



Standard Input Level

input terminal	LINE IN
source impedance	10k Ω
input level	0.25V (-10dB)

Standard Output Level

output terminal	LINE OUT	
load impedance	47k Ω	
output level	0,44V (-5dB)	

Test tape

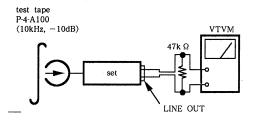
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WS-48B	3kHz, 0dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment

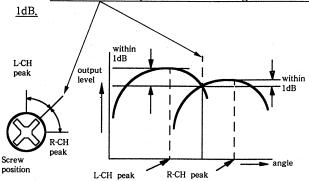
DECK A DECK B

Procedure:

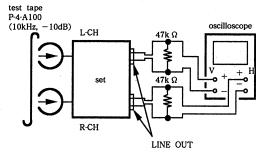
1. Mode: FWD playback

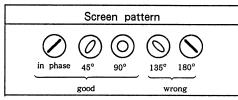


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within



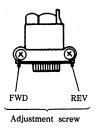
3. Phase Check Mode: playback





- 4. Set in the REV mode and repeat the step 1-3.
- 5. After the adjustment, lock the screws with locking

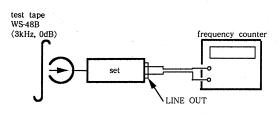
Adjustment Location: Record/Playback head



Tape Speed Adjustment DECK A DECK B

Procedure:

Mode: playback



Perform high speed adjustment before mormal speed adjustment

(high speed adjustment)

- 1. Short test pin TP801 on audio system control board,
- 2. Set to FWD playback mode.
- 3. Keep on pressing the HIGH SPEED DUBBING switch.
- 4. Adjust the variable resistor (H) on rear side of motor M901 so that the frequency counter reading becomes
- 5. After adjustment, disconnect TP801 shorted in step 1.

(normal speed adjustment)

- 1. Set to FWD playback mode.
- 2. Adjust the variable resistor (L) on the rear side of motor M901 so that the frequency counter reading becomes 3.000 ± 10 Hz.

Frequency difference between the beginning and the end of the tape should be within 3%.

Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

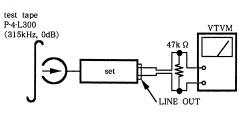
Adjustment Location:

motor rear side (both A and B deck)

Playback Level Adjustment DECK A DECK B

Procedure:

Mode: playback



Adjust RV41 (L-CH), RV61 (R-CH) so that the reading on VTVM meets the adjustmeny limits below.

Ajustment Limits:

LINE OUT level: -5 ± 0.5 dB (0.42-0.46V)

Level difference between channels: less than 0.5dB Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location: MD board

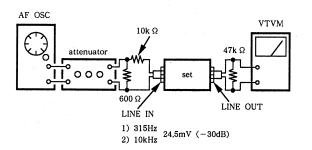
Record Bias Adjustment DECK A DECK B

Setting:

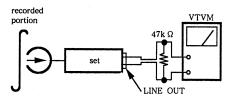
REC LEVEL control: Standard Record (See page 6.) test pin TP801: short

Procedure:

1. Mode: record



2. Mode: playback



Playback the signal recorded in step 1. Confirm that the 10kHz playback output is $0\pm0.5dB$ relative to the 315Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.

Adjustment Location: HX PRO board

Set1

CK B

quency counte

n control board.

normal speed ad-

UBBING switch. ar side of motor reading becomes

norted in step 1.

the rear side of counter reading

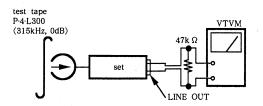
g and the end of

and deck B the

Playback Level Adjustment DECK A DECK B

Procedure :

Mode: playback



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Ajustment Limits:

LINE OUT level: -5 ± 0.5 dB (0.42-0.46V)

Level difference between channels: less than 0.5dB Check that the LINE OUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location: MD board

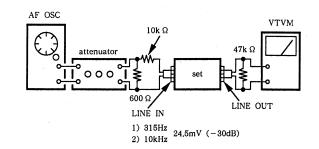
Record Bias Adjustment DECK A DECK B

Setting

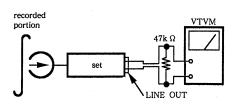
REC LEVEL control: Standard Record (See page 6,) test pin TP801: short

Procedure:

1. Mode: record



2. Mode: playback



Playback the signal recorded in step 1. Confirm that the 10kHz playback output is $0\pm0.5dB$ relative to the 315Hz output. If necessary, adjust RV42 (L-CH), RV62 (R-CH) and repeat the steps given above.

Adjustment Location: HX PRO board

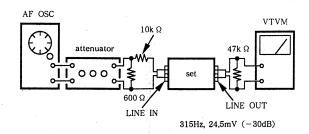
Record Level Adjustment DECK A DECK B

Setting:

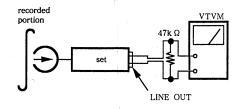
REC LEVEL control: Standard Record (See page 6.) test pin TP801: short

Procedure:

1. Mode: record



2. Mode: playback



3. Playback the signal recorded in step 1.

Confirm that the signal level is within the adjustment limits below. If necessary, adjust DECK A: RV101 (L-CH), RV201 (R-CH) DECK B: RV102 (L-CH), RV202 (R-CH) and repeat the step1-2.

Ajustment Limits: $-25dB\pm0.5dB$ (42-46mV)

Adjustment Location: audio system control board (component side)

Quick Reverse Sensitivity Adjustment DECK A DECK B

Conditions:

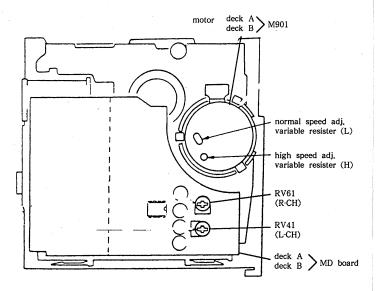
DIRECTION MODE switch:

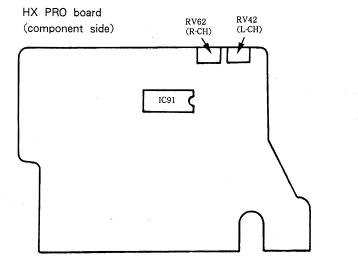
Adjustment Procedure:

- 1. Connect the oscilloscpe to test point TP802.
- 2. Load C-120 tape cassete and playback the leading portion in FWD mode.
- 3. Adjust the RV801 (DECK A), RV802 (DECK B) for 4 ±0.5V reading on the oscilloscope.
- 4. Playback C-120 tape cassette in FWD mode again.
- 5. Confirm that the reading on the oscilloscope is "L" level at the magnetic portion of the tape.
- 6. Confirm that the tape cassette stops around the tape end (boder of the leading and the magnetic portions).

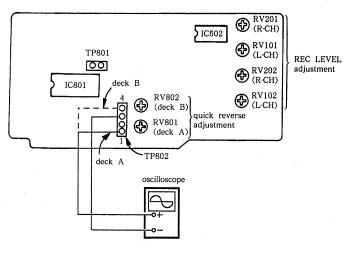
Adjustment Location: audio system control board (component side)

-Adjustment Parts Location Diagrams-



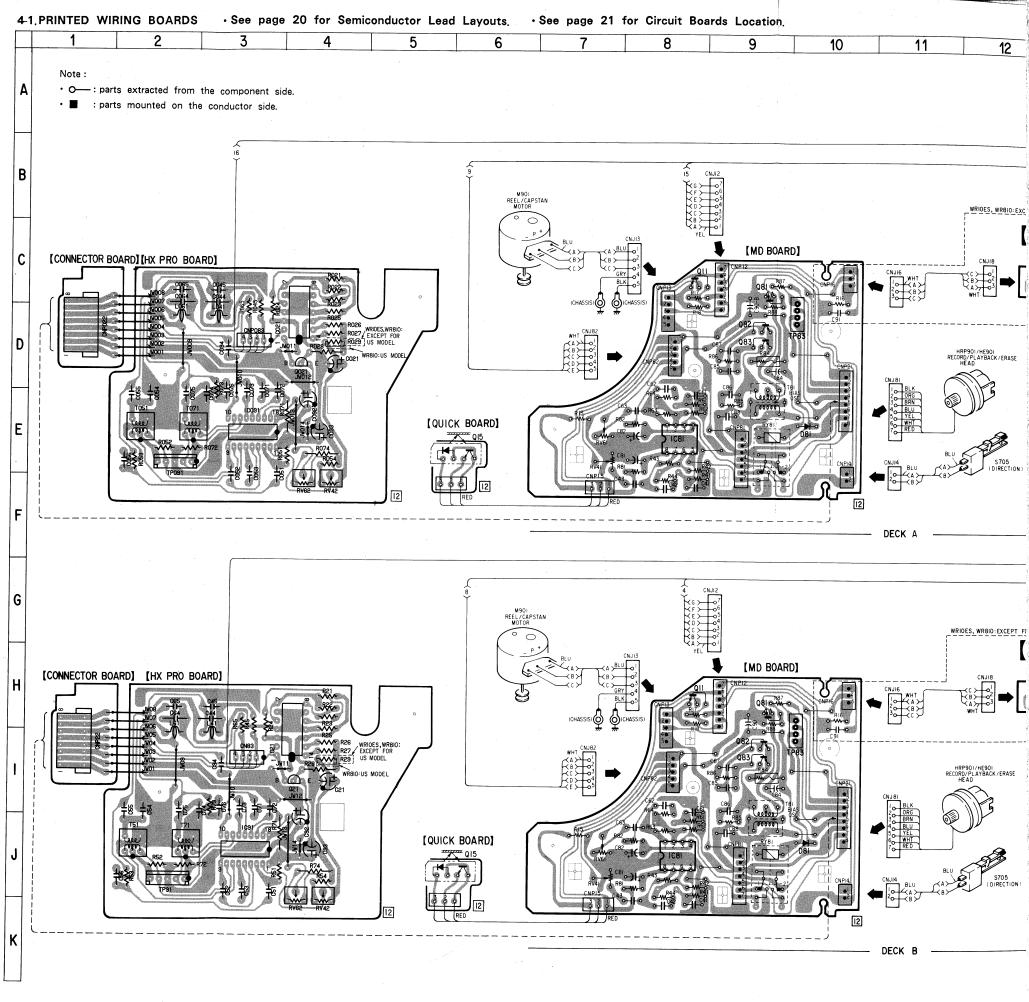


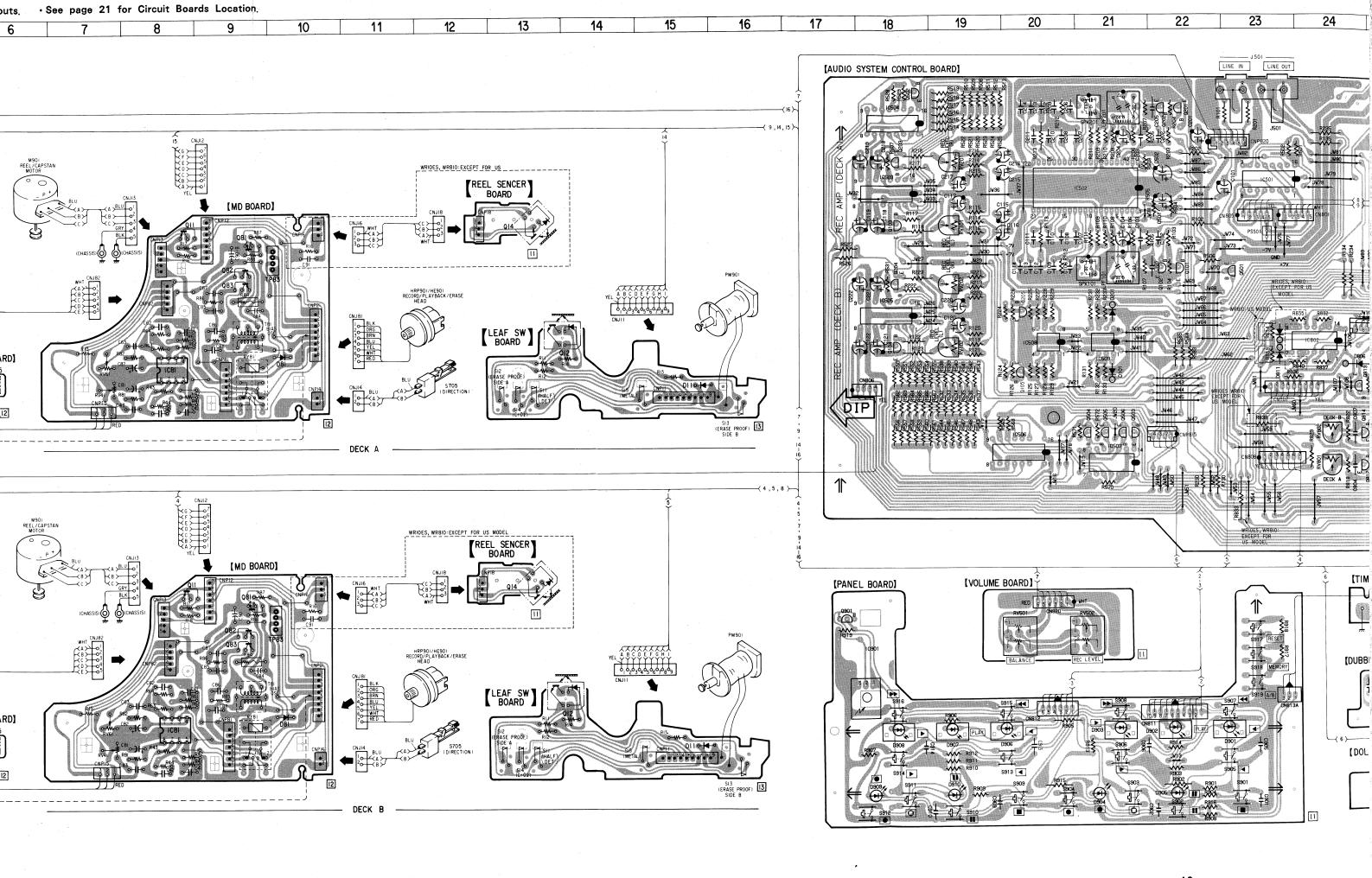
audio system control board (component side)

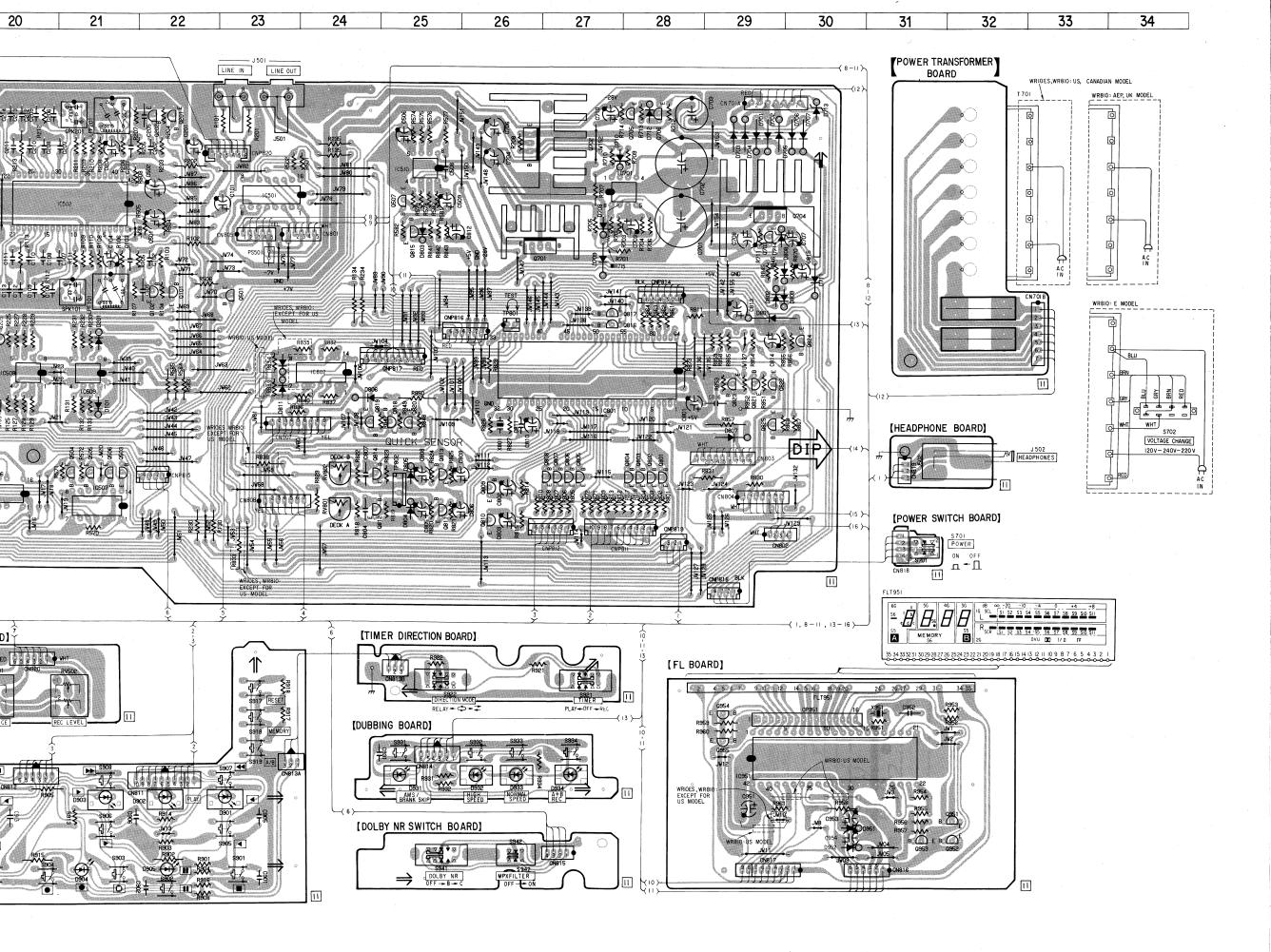


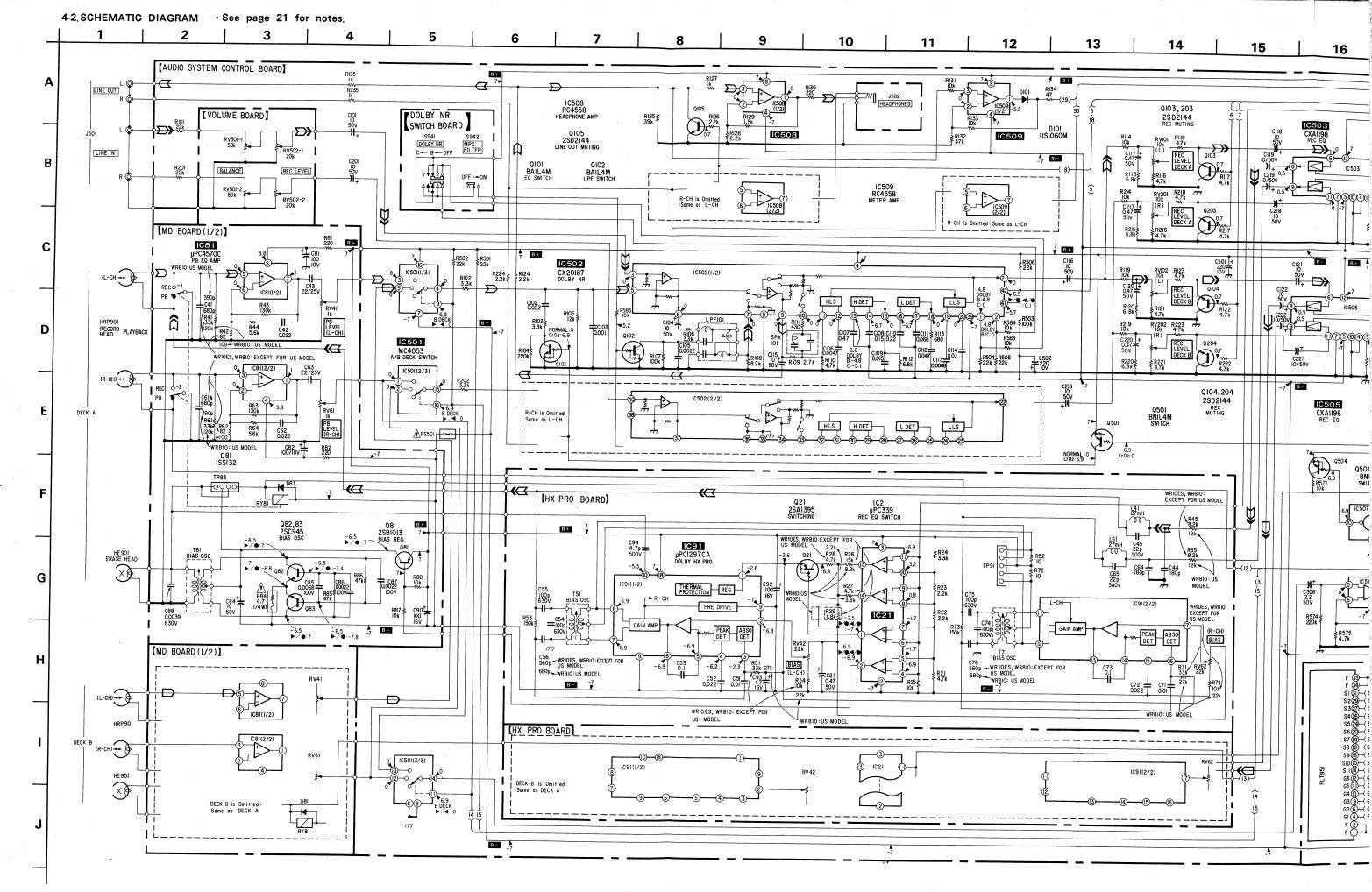
SECTION 4	
DIAGRAMS	

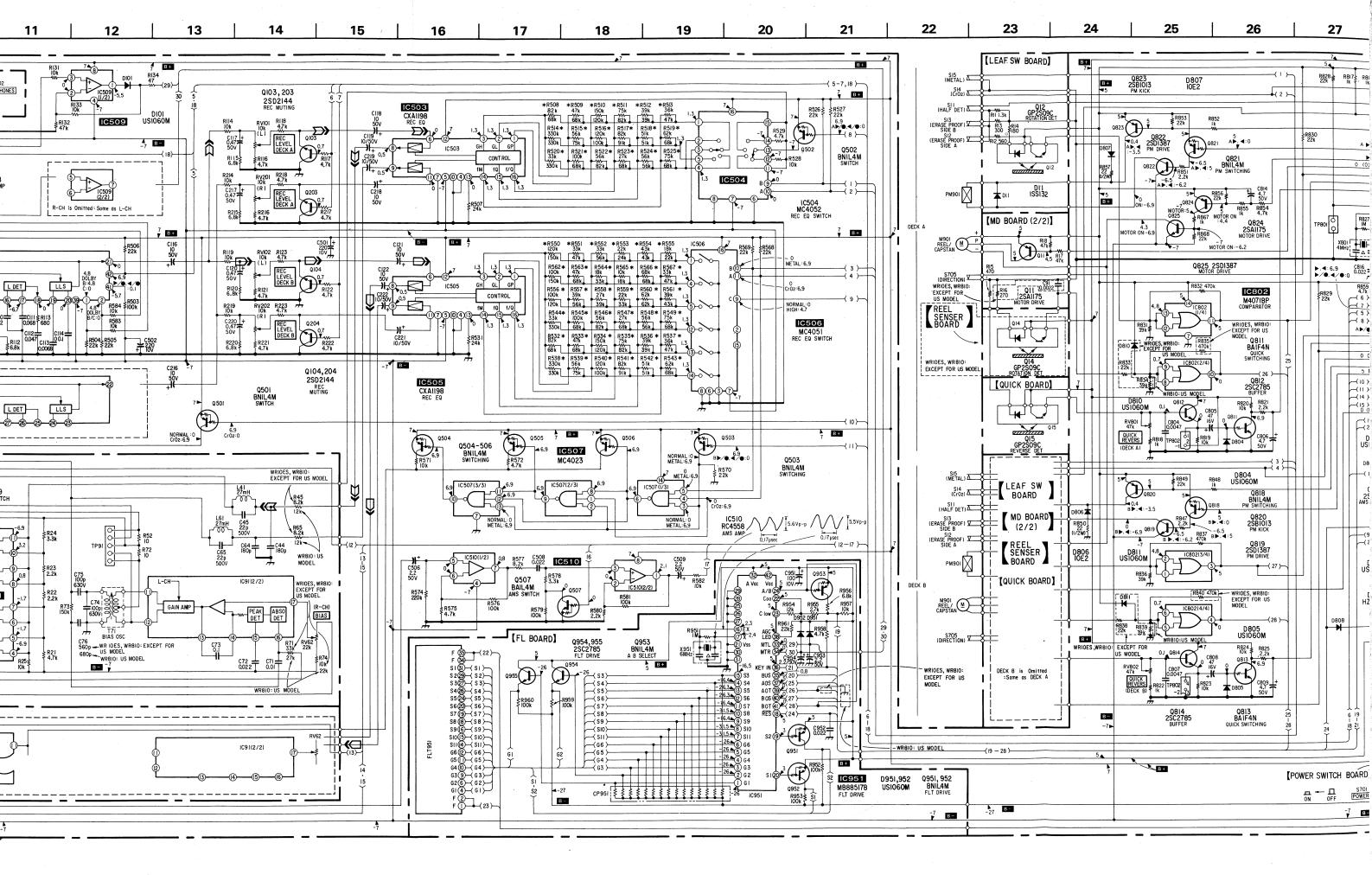
DECK A			LOCATION			
D11	Ref. No.	Location	Ref. No.			
D81			[] IC501	C-23		
IC21		E-15	IC502	C-21		
IC21	D81	E-10	IC503	C-18		
IC21		[11	1		
IC81	IC21	D-3				
IC91			10305	ן או-ט		
CS07 F-21 CS08 E-20 CS08 E-21 CS01 E-27 CS08 E-28 CS08 E-27 CS08 E-28 CS08 E-28 CS08 E-27 CS08 E-28 CS08 E-27 CS08 E-28 CS08 E-27 CS08 E-28 CS08 E-25 CS08			II	1		
Q11	IC91	E-3	IC506	F-20		
O11			IC507	F-21		
Color	Q11	C-8	11	1 .		
014 C-13 IC510 B-25 021 D-4 IC701 C-28 021 D-4 IC701 C-28 081 C-9 IC801 E-27 082 D-9 IC951 J-30 083 D-9 C951 J-30 083 D-9 C951 J-30 081 J-15 Q103 C-18 081 J-15 Q103 C-18 081 J-10 Q104 E-20 IC21 I-3 Q201 B-21 IC81 J-8 Q201 B-21 IC91 J-3 Q202 B-21 IC91 J-3 Q202 B-21 Q203 B-21 Q203 B-21 Q11 H-8 Q204 D-18 Q12 J-14 Q205 D-20 Q14 H-13 Q205 D-20 Q21 I-4 Q502 A-18 Q21			11			
Q15 E−6 Q21 D−4 IC701 C−28 Q81 C−9 IC801 I=19 Q82 D−9 IC901 I=19 Q82 D−9 IC901 I=19 Q83 D−9 Q101 D=22 D11 J−15 Q102 D−22 Q104 E−18 Q102 D−22 D11 J−15 Q103 C−18 Q104 E−18 Q105 E−20 IC21 I−3 Q201 B−21 Q203 B−18 Q104 E−18 Q204 D−18 Q204 D−20 Q204 D−18 Q2			11			
Q21 D−4 IC701 C−28 Q81 C−9 IC801 E−27 Q82 D−9 IC951 J−30 Q83 D−9 IC951 J−30 Q83 D−9 IC951 J−30 Q83 D−9 IC951 J−30 Q83 D−9 IC951 J−30 Q102 D−22 D−20 Q103 B−21 IC91 I−3 IC81 J−8 Q201 B−21 IC91 J−3 Q202 B−21 IC91 J−3 Q202 B−21 Q11 H−8 Q204 D−18 Q12 J−14 Q205 D−20 Q14 H−13 Q205 D−20 Q14 H−13 Q205 F−21 Q82 I−9 Q504 F−21 Q82 I−9 Q504 F−21 Q82 I−9 Q505 F−21 Q82 I−9			10510	B-25		
CSB01 C-9 CSB01 CSB01 C-19						
081 C−9 IC901 I−19 082 D−9 IC951 J−30 083 D−9 IC951 J−30 083 D−9 IC951 J−30 DB1 J−15 Q103 C−18 DB1 J−10 Q104 E−20 IC21 I−3 Q201 B−21 IC91 J−3 Q202 B−21 IC91 J−3 Q202 B−21 IC91 J−3 Q202 B−21 Q203 B−18 Q203 B−18 Q11 H−8 Q204 D−18 Q12 J−14 Q205 D−20 Q11 H−8 Q204 D−18 Q12 J−14 Q205 D−20 Q11 H−9 Q504 F−21 Q11 H−9 Q504 F−21 Q82 I−9 Q505 F−21 Q82 I−9 Q506 F−21 Q801	Q21	D-4	IC701	C-28		
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D805 F-25 Q814 F-25 Q815 C-25 Q816 D-27 D807 F-29 Q817 D-27 D808 D-30 Q818 E-24 Q819 E-24 Q819 E-24 Q819 E-24 Q819 E-24 Q819 E-24 Q819 E-25 Q811 E-29 Q820 E-25 Q820 E-25 Q821 E-29 Q821 E-29 Q821 E-29 Q822 E-29 Q824 D-30 Q824 D-30 Q824 D-30 Q825 E-29 Q824 D-30 Q825 E-29 Q901 H-17 Q955 K-22 Q901 H-17 Q950 J-20 Q951 J-32 Q950 J-18 Q952 K-32 Q955 J-29 Q951 J-25 Q951 J-25 Q951 J-25 Q951 J-25 Q951 J-26 Q953 J-26 Q955 J-29 Q955 J-29 Q953 J-26 Q953 J-26 Q953 J-26 Q955 J-29 Q955 J	1		0813	E_2E		
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D810	5555	5-30				
D811 E-23	D010					
D901			Q820	E-25		
D901	D811	E-23	Q821	E-29		
D902	D901		3			
D903	i	11				
D904 K-21 Q824 D-30 D905 K-22 Q901 H-17 D906 J-20 Q951 J-32 D907 J-19 D908 J-18 Q952 K-32 D909 K-18 Q953 K-31 D910 K-19 Q954 I-29 D931 J-25 Q955 I-29 D932 J-26 D933 J-26		13	0000			
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D906	D905	K-22	Q901			
D907	D906			**		
D908 J-18 Q952 K-32 D909 K-18 Q953 K-31 D910 K-19 Q954 I-29 D931 J-25 Q955 I-29 D932 J-26 D933 J-26	1	- 14				
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D910 K-19 Q954 I-29 D931 J-25 Q955 I-29 D932 J-26 D933 J-26		- H	I			
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D932 J-26 D933 J-26	1	- 11				
D932 J-26 D933 J-26	1	13	Q955	1-29		
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D934 J-27						
DUUT 1 U-Z1 11	D934	1-27				
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D951 J-31	1	11	1	1		
D952 K-30	D952	K-30		J		
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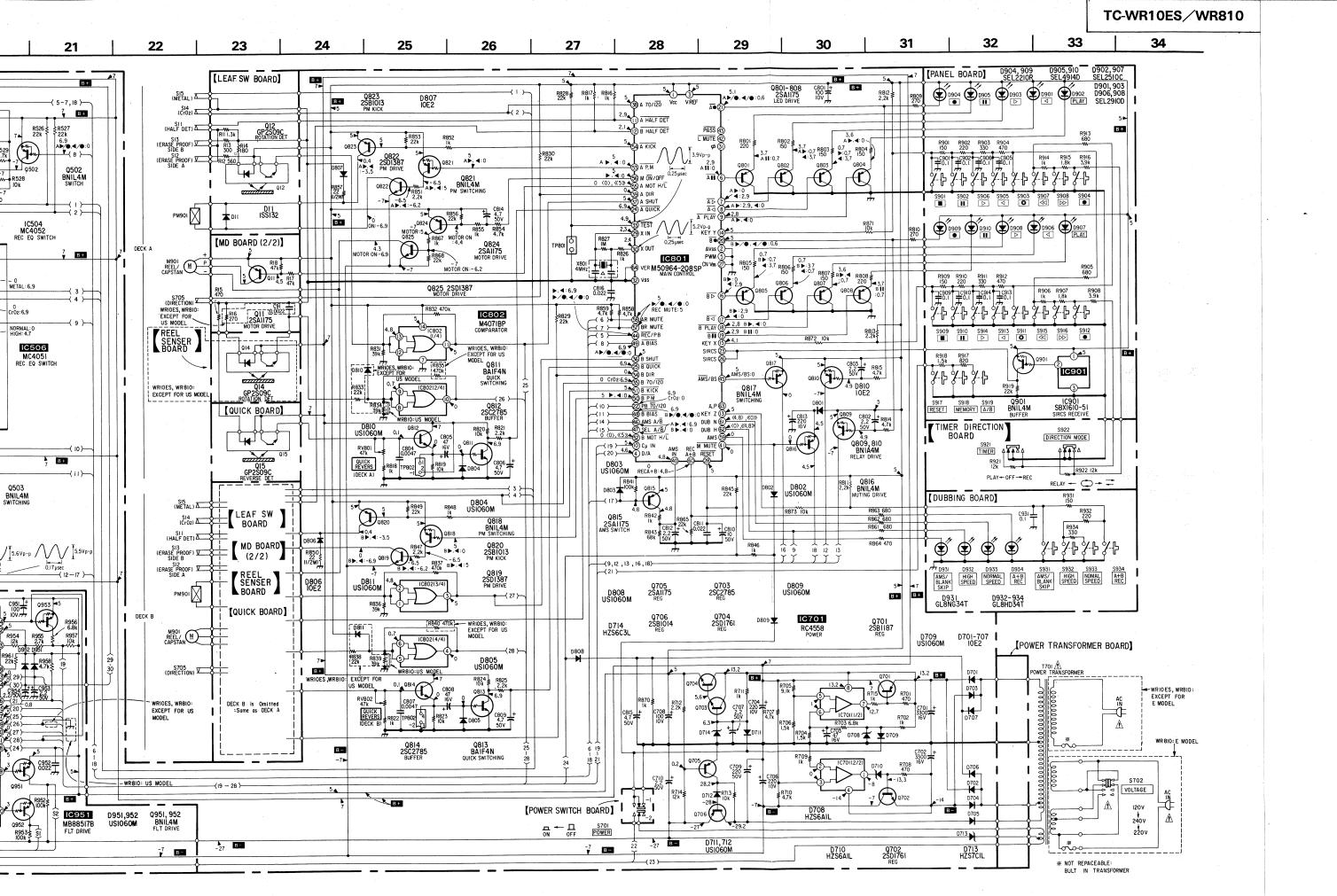




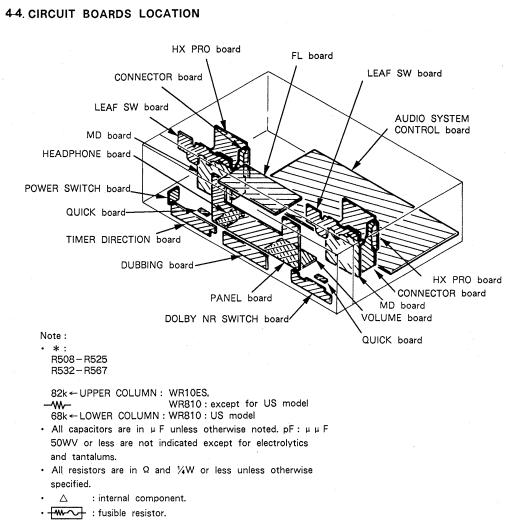








4-3. SEMICONDUCTOR LEAD LAYOUTS BA1L4M 2SC2785 CXA1198AP MC14053BCP TC4051BPHB 2SD1761-E 2SC1175-HFE TC4052BP 161514131211109 12345678 GL8HD34T GL8NG34T CX20187 MB88517B DTA114ES DTA144ES DTC124XS 2SD2144S-V (Top view) LM339N HZS6A1L HZS6C3L HZS7C1L M4023BP TC4071BP US1060M 1413121110 9 8 GP-2S09-C 0000000 1 2 3 4 5 6 7 (Top view) M50964-208SP 2SB1013 2SC945-P SEL2210R 2SD1387 **TLY124** (Top view) RC4558P μPC4570C-1 2SB1014 SEL2510C 8765 SEL4914D 0000 μPC1297CA 2SB1187-F **1SS132** 10E2N فمممممممم



Note: The components identified by mark for dotare critical for safety."

Replace only with part

Note:

Les composants identifiés par une marque A sont critiques pour la sécurité. Ne les remplacer que par une

pièce portant le numéro spéci-

• B+ : B+ Line

number specified.

• B- : B- Line

: adjustment for repair.

· Voltages and waveforms are dc with respect to ground under no-signal conditions.

no mark: STOP

>: NORMAL SPEED DUBBING): HIGH SPEED DUBBING

■ : REV **≪**: REW • : REC

• Voltages are taken with a VOM (Input impedance $10M \Omega$). Voltage variations may be noted due to normal production tolerances.

· Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.

· Signal path.

> : PB (DECK A)

> : REC (DECK A)

☐ : PB (DECK B)

: REC (DECK B)

4-5. M50964-206SP (IC801)

		OLONIAL		FUNCTION
	PIN NAME	SIGNAL	1/0	
1	Vcc AVss			Power supply pin Ground pin
3	VREF			Power supply pin
3	VKEI			Data output to microcomputer
4	D/A	C μ OUT	0	of counter
5	PWM			Not used
6	P63	A II	0	Output for LED (L: light on)
7	P62	ĀÞ	0	Output for LED (L: light on)
8	P61	Ā<	0	Output for LED (L:light on)
9	P60	A PLAY	0	Output for LED (L:light on)
10	AN7	C μ IN	I	Data input from microcomputer of counter
11	AN6	A HALF DET	I	Detect the tab for recording proof on the deck A (L:tab being H:tab removed)
12	AN5	B HALF DET	I	Detect the tab for recording proof on the deck B (L:tab being H:tab removed)
13	AN4	KEY Z	I	Input from operation switches,
14	AN3	KEY Y	I	Input from operation switches,
15	AN2	KEY X	I	Input from operation switches.
16	P41	BD	0	Output for LED (L:light on)
17	P40	B⊲	0	Output for LED (L: light on)
18	P37	B PLAY	0	Output for LED (L:light on)
19	P36	B	0	Output for LED (L:light on)
20	P35	8●	0	Output for LED (L: light on)
21	P34	A •	0	Output for LED (L: light on)
21	F 34	AU	-	Output for playback equalizer
22	P33	PB	0	switching to 70 μS.
23	P32/INT2	SIRCS	I	SIRCS signal is input
24	P31	A QUICK	Ó	Output for quick reverse to deck A
25	P30	B QUICK	0	Output for quick reverse to deck B
26	INT1	SIRCS	I	SIRCS signal is input
27	CN Vss			Ground pin
28	RESET		I	Reset signal is input
29	X IN		I	4.00MHz oscillation signal is input
30	X OUT		0	4.00MHz oscillation signal is output
31	φ			Not used
32	Vss			Ground pin
33	P57	TEST	I	Input for test mode
34	P56	B DIR	I	Input from direction switch of deck B
35	P55	B 70∕120	I	Input from $70/120 \mu S$ switch of deck B
36	P54	в ѕнит	I	Rotation detect of reel table of deck B (the mechanism is shut off after one second from no signal change)
37	P53	A SHUT	I	Rotation detect of reel table of deck A (the mechanism is shut off after one second from no signal change)
38	P52	A 70/120	I	Input from 70/120 μS switch of deck A
39	P51	A DIR	I	Input from direction switch of deck A
40	P50	AMS IN	I	AMS signal is input
41	P17	M MUTE	0	Output for meter muting (L: muting)
42	P16	L MUTE	0.	Output for line muting (not used)

No.	PIN NAME	SIGNAL	1/0	FUNCTION
43	P15	PASS	0	Output for switching pass amp (not used)
44	P14	REC/PB	0	Output to switch record/playback (L:record)
45	P13	ĀMS∕BS	0	Output to switch characteristic of AMS/BS amp
46	P12	AMS A/\overline{B}	0	Output to switch deck A or deck B of AMS/BS amp (L:deck B)
47	P11	SEL A/B	0	Output to switch deck A or deck B of AMS/BS amp (L:deck B)
48	P10	B BIAS	0	Output for switching record bias of deck B
49	P07	A BIAS	0	Output for switching record bias of deck A
50	P06	В РМ	0	Output to hold the solenoid of deck B
51	P05	в кіск	0	Output to kick the solenoid of deck B
52	P04	BM H∕Ū	0	Output to switch high speed/ normal speed of capstan motor on deck B (H: high speed dubbing or FF/REW)
53	P03	A PM	0	Output to hold the solenoid of deck A
54	P02	A KICK	0	Output to kick the solenoid of deck A
55	P01	AM H∕L	0	Output to switch high speed/ normal speed of capstan motor on deck A (H:high speed dubbing or FF/REW)
56	P00	M ON/OFF	0	Output for ON/OFF of capstan motor (H:STOP)
57	P27	B R MUTE	0	Output to mute record signal of deck B (H:muting)
58	P26	A R MUTE	0	Output to mute record signal of deck A (H:muting)
59	P25	AMS	0	Output for LED (H:light on)
60	P24	REC A+B	0	Output for LED (H:light on)
61	P23	DUB N	0	Output for LED (H:light on)
62	P22	DUB H	0	Output for LED (H:light on)
63	P21	A,P	0	Not used
64	P20	VER	I	Terminal of Version setting (this set is L)

TEST MODE

This set is into TEST MODE according to make L of 33 pin.

- 1. Souce monitor
 - Cancel the muting of line signal while recording.
- 2. High speed playback
- Keep on pressing HIGH SPEED (DUBBING) button and the set playback in high speed while recording.
- 3. RECORD MEMORY STOP
- In advance, set the DIRECTION MODE switch to and the set playback after goingback to point of starting record by each operation €, ►/€ keys.
- 4. LED display of slide switch
- Display the switch positions DIRECTION MODE switch and TIMER switch by LED while deck B is in | mode.

switch	position	LED
DIRECTION MODE	RELAY	deck A ◀ deck A PLAY deck A ▶
TIMER	REC OFF PLAY	deck B ◀ deck B PLAY deck B▶

5. AGC gain check AGC gain is maximum in recording with DIRECTION MODE switch to ₹.

SECTION 5 EXPLODED VIEWS

NOTE: • The mechanical parts with no reference number in the exploded views are not

supplied.

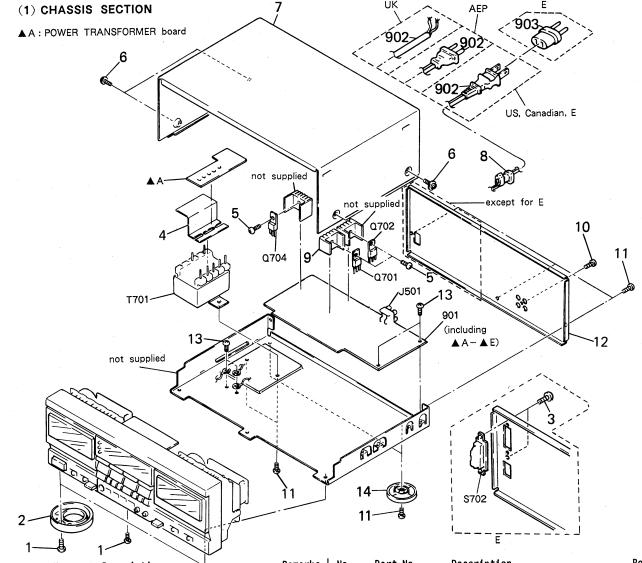
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example: (RED) ...KNOB, BALANCE (WHITE)

Cabinet's Color Parts' Color The components identified by mark A or dotted line with mark A are critical for safety.

Replace only with part number specified.

Les composants identifiés par une marque A sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifé.



	1	1				E *	
lo.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	7-682-549-04	SCREW +BYTT 3X10 (S)		13 14	7-685-871-01 X-4885-935-1	SCREW +BVTT 3X6 (WR10ES, WR810: AEP, UK)FOOT	
2	3-332-580-01	(WR10ES, WR810: AEP, UK)COVER (FO (WR810: US, Canadian, E)COVER (FO			X-4911-201-1	(WR810:US,Canadian,E)FOOT	ASSY
	3-332-580-11			901	*A-2006-095-A	(WRIOES, WR810: EXCEPT FOR US)MOUNTED PCB, SYS	TEM CONTROL
3 4	7-685-534-19 *3-337-136-11	SCREW +BTP 2.6X8 TYPE 2 N-S COVER, TRANSFORMER SAFETY			*A-2006-110-A		
5	7-685-645-79	SCREW +BVTP 3X6 TYPE2	1			(=) 0000 DOUED	
6	3-704-366-01	SCREW (CASE) (M3X8)		902	1-551-188-XX 1-551-188-XX	(E)CORD, POWER	
7	3-332-578-71	CASE			⚠.1-551-506-XX ⚠.1-555-795-00	(US,Canadian)CORD, POWER (AEP)CORD, POWER, EULO PLU	a a
8	3-703-244-00 3-703-571-00	(AEP,UK)BUSHING (2104), CORD (US,Canadian,E)			1-556-035-00 1-556-035-00	(UK)CORD, POWER	
	3-703-571-00	BUSHING (S)(4516), CORD		903	1 .1-526-565-00 1 .1-526-565-00	(E)AC PLUG ADAPTOR	
		· · · · · · · · · · · · · · · · · · ·	. 1	J501		JACK, PIN 4P (LINE IN/OUT)	
9	*4-363-146-21	HEAT SINK, V.OUT		0701		TRANSISTOR 2SB1187-F	
10	7-621-849-00	SCREW, TAPPING		0702		TRANSISTOR 2SD1761-E	
11	7-682-548-04	SCREW +BVTT 3X8 (S)		Q704	8-729-808-76	TRANSISTOR 2SD1761-E	
12	*3-349-035-21	(AEP)PANEL, BACK		S702	1-570-307-11	(E)SWITCH, VOLTAGE CHANGE	
	*3-349-035-31	(E)PANEL, BACK			1-449-460-11 1	(AEP,UK)TRANSFORMER,	POWER
	*3-349-035-61	(WR10ES)PANEL, BACK			<u>^</u> .1-449-461-11	(E)TRANSFORMER,	POWER
	*3-349-035-41	(WR810:US, Canadian)PANEL, BACK		T701	1-449-614-11 1. 1. 1. 1. 1. 1. 1. 	(US,Canadian)TRANSFORMER,	POWER
	*3-349-035-71	(UK)PANEL, BACK					

(2) FRONT PANEL SECTION

▲ B: CONNECTOR board (DECK A) ▲C: HX PRO board (DECK A) ▲ D: CONNECTOR board (DECK B) ▲E: HX PRO board (DECK B) **■**F: HEADPHONE board

■G:FL board H: DUBBING board **☑**I : VOLUME board

■J: DOLBY NR SWITCH board ■ K : POWER SWITCH board

53

₩G **■**L: TIMER DIRECTION board -84 73, -86 -88 69 904 (including ■F-■L) 88 62 61 60 90 74 ·59 gg 54

76 (WR10ES. WR810: except for US) supplied with variable resist Remarks | No

No.	Part No.	<u>Description</u> Remarks	
51	X-3340-168-1	(WR10ES)LID (B) ASSY, CASSETTE (WR810:US)LID (B) ASSY, CASSETTE (WR810:EXCEPT FOR US)LID (B) ASSY, CASSETTE	
52	X-3340-134-1 X-3340-143-1 X-3340-167-1	(WR810:EXCEPT FOR US)LID (A) ASSY, CASSETTE (WR10ES)LID (A) ASSY, CASSETTE (WR810:US)LID (A) ASSY, CASSETTE	
53	7-621-775-10	SCREW +B 2.6X4	
54	X-3340-169-1	(WR10ES)PANEL ASSY, FRONT (WR810:US)PANEL ASSY, FRONT (WR810:AEP,UK,E)PANEL ASSY, FRONT (WR810:Canadian)PANEL ASSY, FRONT	
55 56 57 58 59	*3-340-193-01		
60 61 62 63 64	7-621-255-15 *3-340-178-01	BRACKET (POWER SW) BUTTON. (DUBBING)	
65 66 67 68		KNOB, HEADPHONE KNOB, HEADPHONE SLIDER (EJECT RIGHT) SPRING, TORSION	

1	~	(WR10ES, WR810: except for US)	1
tor	TCM-170	ORB14 (DECK A): (WR810: US)	
No .	Part No.	Description	Remarks
		HOLDER ASSY, CASSETTE	
	*3-346-339-01		
	4-812-134-00		
72		HOLDER (RIGHT), FL TUBE	
73	*3-343-608-01	HOLDER (LEFT), FL TUBE	
		SCREW +BTP 2.6X8 TYPE2 N-S	
75	*3-340-123-01		
76		CUSHION (B), CABINET	
77		DAMPER, SMALL	
78	7-621-770-87	SCREW +BVTT 2.6X5 (S)	
79	*X-3332-486-1	BRACKET ASSY (A)	
80	3-558-708-21	WASHER, STOPPER	
81	*3-343-449-01	LEVER (LOCK LEVER)	
82		SPRING, TENSION	
83	*3-346-306-01	LEVER (EJECT)	
84	*3-682-419-21	HOLDER, P.C.B	
85	*3-346-307-01		
86	*3-346-305-01	BRACKET (DAMPER)	
87	3-346-309-01	BUTTON (COUNTER)	
88	7-685-135-19	SCREW +BTP 2.6X10 TYPE2 N-S	
89	X-3340-135-1	BUTTON ASSY, CONTROL	
90	*X-3332-487-1	BRACKET ASSY (B)	
91	*3-337-108-01	HOLDER, LED	
92	*3-346-303-01	BRACKET (HEADPHONE)	
904	*1-630-291-11	PC BOARD, PANEL	
		INDICATOR TUBE, FLUORESCENT	
J502	1-507-796-71	JACK (HEADPHONES)	
S701	1-553-336-21	SWITCH, PUSH	

86

78

TCM-170RB14 (DECK A): (WR810: US)

69

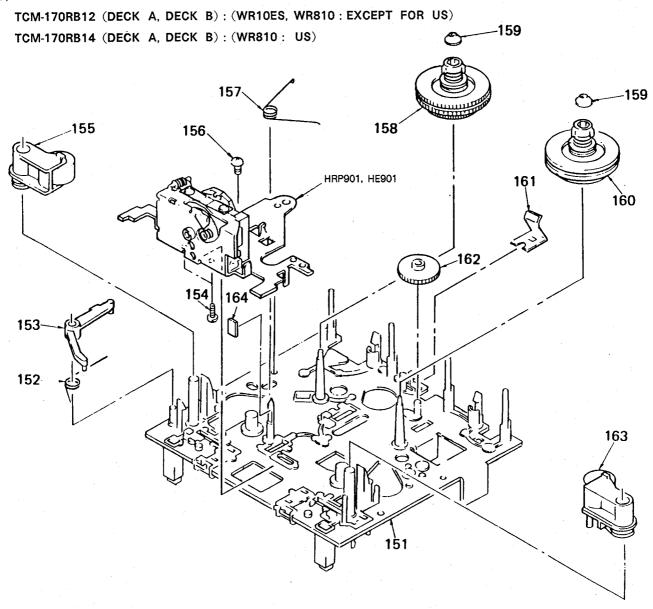
TCM-170RB12 (DECK A):

MJ

55

82 TCM-170RB12 (DECK A): (WR10ES, WR810: except for US)

(3) MECHANISM SECTION 1

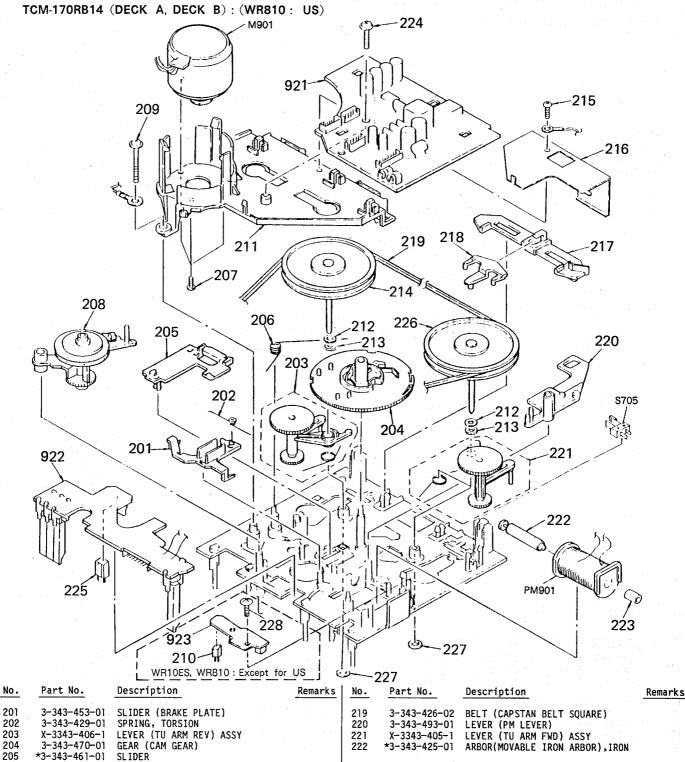


No.	Part No.	Description	Remarks	No.	Part No.	<u>Description</u>	Remarks
151 152 153 154 155	3-343-477-01 *3-343-476-01 7-685-102-19	CHASSIS ASSY, MECHANICAL SPRING, TORSION (EJECT SAFTY) LEVER (EJECT SAFETY LEVER) SCREW +P 2X4 NON-SLIT TYPE 2 LEVER (PINCH LEVER REV) ASSY		161 162 163 164	3-343-420-01 3-343-411-01 X-3343-402-1 *3-343-481-01		
156 157 158 159 160	7-621-773-86 3-343-401-01 X-3343-415-1 3-343-439-01 X-3343-401-1	CAP (REEL TABLE)				(WR10ES,WR810:EXCEPT FOR US)CHASSIS ASSY, HEAD (WR810)CHASSIS ASSY, HEAD	

TC-WR10ES/WR810

(4) MECHANISM SECTION 2

TCM-170RB12 (DECK A, DECK B): (WR10ES, WR810: EXCEPT FOR US)



			-			Tremat its
201 202 203 204 205	3-343-429-01 X-3343-406-1	SLIDER (BRAKE PLATE) SPRING, TORSION LEVER (TU ARM REV) ASSY GEAR (CAM GEAR) SLIDER	219 220 221 222	3-343-493-01 X-3343-405-1	BELT (CAPSTAN BELT SQUARE) LEYER (PM LEYER) LEYER (TU ARM FWD) ASSY ARBOR(MOVABLE IRON ARBOR),IRON	
206 207 208	3-343-430-01 7-627-556-28 X-3343-414-1	SPRING, TORSION SCREW +P 2.6X3.5 LAVER (FR ARM) ASSY	223 224 225	*3-343-424-01 3-343-404-01 *3-343-419-01	SCREW (PTPWH 2X10)	
209 210		SCREW (PTTWH 2X18) (WR10ES,WR810:EXCEPT FOR US)HOLDER (S SENSOR B)	226 227 228	X-3343-431-1 3-343-473-01 7-685-103-19	FLYWHEEL (REV) COMPLETE ASSY WASHER, NYLON (WR10ES,WR810:EXCEPT FOR US) SCREW + PTPWH (2XS	5)
211 212 213 214	*X-3343-407-1 4-605-835-11 3-307-482-00 X-3343-429-1	BASE (THRUST RETAINER) ASSY WASHER (2.6), POLYSLIDER WASHER, LUMILER FLYWHEEL COMPLETE ASSY	921 922 923	*1-629-211-11 *1-624-148-11 *1-628-656-11	PC BOARD, MD (B) PC BOARD, LEAF SW (WR10ES,WR810:EXCEPT FOR US)	·
215 216 217 218		SCREW +P 2X6 TYPE2 NON-SLIT PLATE, SHIELD SLIDER (REVERSE SLIDER) LEVER	M901 PM901 S705 26	X-3343-408-1 1-454-456-11 1-571-028-11	PC BOARD, REEL SEM MOTOR ASSY SOLENOID, PLUNGER SWITCH, LEAF (REC SW)	NSOR

SECTION 6 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS: MF: μF, PF: μμF.

RESISTORS

- All resistors are in ohms. F: nonflammable

MMH: mH, UH: μH

SEMICONDUCTORS

In each case, U: μ, for example: UA...: μΑ..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by mark \(\bar{\Lambda} \) or dotted line with mark \(\bar{\Lambda} \) are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque \(\begin{align*} \) sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

		, , , , , , , , , , , , , , , , , , ,		4				
Ref.No	. Part No.	Description	Ref.No.	Part No.	Description			
901	*A-2006-095-A	(WR10ES, WR810: EXCEPT FOR US)	C81	1-124-443-00	ELECT	100MF	20%	10 v
	*A-2006-110-A	MOUNTED PCB, SYSTEM CONTROL (WR810:US)MOUNTED PCB, SYSTEM CONTROL	C82 C84	1-124-443-00 1-123-875-11	ELECT ELECT	100MF 10MF	20% 20%	10V 50V
902	1-551-188- XX	(E)CORD, POWER	C85	1-130-856-00	FILM	0.0068MF	5%	100V
	1-551-506-XX 1-555-795-00	(US,Canadian)CORD, POWER (AEP)CORD, POWER, EULO PLUG	C86 C87	1-136-230-00	FILM	0.0022MF	5%	1007
	∆. 1-556-035-00	(UK)CORD, POWER	""	1-136-230-00	LIUM	0.0022MF	5%	1007
903	A.1-526-565-00	(E)AC PLUG ADAPTOR	C88	1-136-558-11	FILM	0.0039MF	5%	630V
904	*1-630-291-11	PC BOARD, PANEL	C90	1-126-101-11 1-161-375-00	ELECT (WR10ES,WR81	100MF O:FXCFPT FOR	20%	16 V
921	*1-629-211-11	PC BOARD, MD (B)			CERA			% 16V
922	*1-624-148-11	PC BOARD, LEAF SW	C92	1-126-101-11	ELECT	100MF	20%	167.
923	*1-628-656-11	(WR10ES, WR810: EXCEPT FOR US)	C93	1-124-477-11	ELECT	47MF	20%	167
		PC BOARD, REEL SENSOR	C94	1-107-046-00	MICA	4.7PF	0.5PF	500V
C21	1-124-902-00	ELECT 0.47MF 20% 50V	C101	1-123-875-11	ELECT	10MF	20%	50 V
C41	1-110-342-11	(WR810:US)MYLAR 390PF 5% 50V	C102 C103	1-136-157-00 1-162-294-31	FILM CERAMIC	0.022MF 0.001MF	5% 10%	50V 50V
C41	1-130-469-00	(WRIOES, WR810: EXCEPT FOR US)						
		MYLAR 680PF 5% 50V	C104 C105	1-123-875-11 1-161-375-00		10MF 0.0022MF	20% 30%	50V 16V
C42	1-136-157-00	FILM 0.022MF 5% 50V	C106	1-130-479-00	MYLAR	0.0047MF	5%	507
C43 C44	1-124-282-00 1-162-285-31	ELECT 22MF 20% 25V CERAMIC 180PF 10% 50V	C107	1-136-173-00	FILM.	0.47MF	5%	504
•	1 102 203 31	CERMITO 190FL 10% 50Å	C108	1-136-167-00	FILM	0.15MF	5% 5%	50V 50V
C45 C51	1-107-210-00 1-136-153-00	MICA 22PF 5% 500V FILM 0.01MF 5% 50V	C109	1-136-155-00	FILM	0.015MF	5%	50 V
C52	1-136-157-00	FILM 0.01MF 5% 50V FILM 0.022MF 5% 50V	C110	1-136-169-00	FILM	0.22MF	5%	50V
053	1 126 165 00		C111	1-136-163-00	FILM	0.068MF	5%	50 V
C53 C54	1-136-165-00 1-136-433-11	FILM 0.1MF 5% 50V FILM 100PF 5% 630V	C112	1-136-161-00	FILM	0.047MF	5%	50 V
C55	1-136-433-11	FILM 100PF 5% 630V	C113	1-130-481-00	MYLAR	0.0068MF	5%	50V
C56	1-130-468-00	(WR10ES, WR810: EXCEPT FOR US)	C114 C115	1-136-153-00 1-123-875-11	FILM ELECT	0.01MF 10MF	5% 20%	50V 50V
		MYLAR 560PF 5% 50V	01113	1 123 073 11	LLLOI	I OF 1	20%	. 50¥
C56	1-130-469-00	(WR810:US)MYLAR 680PF 5% 50V	C116	1-123-875-11 1-124-902-00	ELECT	1 OMF	20%	50V
C61	1-110-342-11	(WR810:US)MYLAR 390PF 5% 50V	C118	1-123-875-11	ELECT	0.47MF 10MF	20% 20%	50V 50V
C61	1-130-469-00	(WR10ES, WR810: EXCEPT FOR US)	C110	1-122 075 11	FLECT	3.045		
		MYLAR 680PF 5% 50V	C119 C120	1-123-875-11 1-124-902-00	ELECT ELECT	10MF 0.47MF	20% 20%	50V 50V
C62	1-136-157-00	FILM 0.022MF 5% 50V	C121	1-123-875-11	ELECT	1 OMF	20%	50V
C63 C64	1-124-282-00 1-162-285-31	ELECT 22MF 20% 25V CERAMIC 180PF 10% 50V	C122	1-123-875-11	ELECT	1 OMF	20%	50V
			C201	1-123-875-11	ELECT	10MF	20%	507
C65 C71	1-107-210-00 1-136-153-00	MICA 22PF 5% 500V FILM 0.01MF 5% 50V	C202	1-136-157-00	FILM	0.022MF	5%	50V
C72	1-136-157-00		C203	1-162-294-31	CERAMIC	0.001MF	10%	50V
C73	1-126-165-00	ETIM O IMP FOR FOU	C204	1-123-875-11	ELECT	1 OMF	20%	50V
C74	1-136-165-00 1-136-433-11		C205	1-161-375-00	CERAMIC	0.0022MF	30%	167
C75	1-136-433-11	FILM 100PF 5% 630V	C206	1-130-479-00		0.0047MF	5%	50V
C76	1-130-468-00	(WRIOES, WR810: EXCEPT FOR US)	C207 C208	1-136-173-00 1-136-167-00	FILM FILM	0.47MF	5%	50V
		MYLAR 560PF 5% 50V			LLPI	0.15MF	5%	507
C76	1-130-469-00	(WR810:US)MYLAR 680PF 5% 50V	C209	1-136-155-00	FILM	0.015MF	5%	50V
	*		C210 C211	1-136-169-00 1-136-163-00	FILM FILM	0.22MF 0.068MF	5% 5%	50V
			1			Q. 000/II	310	301

Ref.No.	Part No.	Description						Ref.No.	Part No.	Description		
C212 C213 C214	1-136-161-00 1-130-481-00 1-136-153-00	FILM MYLAR FILM	0.047MF 0.0068MF 0.01MF	5% 5% 5%	50V 50V 50V			CNP22 CNP81	*1-565-344-11 *1-565-347-11 *1-564-709-11 *1-564-339-00	PIN, CONNECTOR SOCKET, CONNEC PIN, CONNECTOR PIN, CONNECTOR	TOR (PC (SMALL	BOARD)8P
C215 C216 C217	1-123-875-11 1-123-875-11 1-124-902-00	ELECT ELECT	1 OMF 1 OMF 0.47MF	20% 20% 20%	50V 50V 50V	•		CNP811	*1-564-338-00 *1-564-666-11 *1-564-340-00	PIN, CONNECTOR PIN, CONNECTOR PIN, CONNECTOR	10P	
C218 C219 C220	1-123-875-11 1-123-875-11 1-124-902-00	ELECT ELECT ELECT	1 OMF 1 OMF 0 • 4 7 MF	20% 20% 20%	50V 50V 50V			CNP814 CNP815	*1-564-340-61 *1-564-338-00	PIN, CONNECTOR PIN, CONNECTOR	6P 4P	
C221 C222 C501	1-123-875-11 1-123-875-11 1-126-176-11	ELECT ELECT ELECT	10MF 10MF 220MF	20% 20% 20%	50V 50V 10V			CNP817 CNP818	*1-564-340-71 *1-506-503-71 !*1-564-338-61	PIN, CONNECTOR PIN, CONNECTOR PIN, CONNECTOR	9P 4P	
C502 C506 C508	1-126-176-11 1-124-925-11 1-161-494-00	ELECT ELECT CERAMIC	220MF 2.2MF 0.022MF	20% 20%	10V 50V 25V			CNP820	*1-564-337-00 *1-564-708-11 1-233-167-11	PIN, CONNECTOR PIN, CONNECTOR COMPOSITION CIR	(SMALL	
C509 C701 C702	1-124-925-11 1-124-887-00 1-124-887-00	ELECT ELECT ELECT	2.2MF 3300MF 3300MF	20% 20% 20%	50V 16V 16V			D11 D81 D101	8-719-107-94 8-719-107-94 8-719-000-26	DIODE 1SS132 DIODE 1SS132 DIODE US1060M		
C703 C704 C706	1-124-477-11 1-126-176-11 1-126-176-11	ELECT ELECT ELECT	47MF 220MF 220MF	20% 20% 20%	16V 10V 10V			D201 D701 D702	8-719-000-26 8-719-200-77 8-719-200-77	DIODE US1060M DIODE 10E2N DIODE 10E2N		
C707 C708 C709	1-124-925-11 1-124-443-00 1-124-911-11	ELECT ELECT ELECT	2.2MF 100MF 220MF	20% 20% 20%	50V 10V 50V			D703 D704 D705	8-719-200-77 8-719-200-77 8-719-200-77	DIODE 10E2N DIODE 10E2N DIODE 10E2N		
C710 C801 C802	1-124-925-11 1-124-443-00 1-124-925-11	ELECT ELECT	2.2MF 100MF 2.2MF	20% 20% 20%	50V 10V 50V			D706 D707 D708	8-719-200-77 8-719-200-77 8-719-933-33	DIODE 10E2N DIODE 10E2N DIODE HZS6A1L		
C803 C804 C805	1-124-925-11 1-161-377-00 1-124-477-11	ELECT CERAMIC ELECT	2.2MF 0.0047MF 47MF	20% 30% 20%	50V 16V 16V			D709 D710 D711	8-719-000-26 8-719-933-33 8-719-000-26	DIODE US1060M DIODE HZS6A1L DIODE US1060M		
C806 C807 C808	1-124-927-11 1-161-377-00 1-124-477-11	ELECT CERAMIC ELECT	4.7MF 0.0047MF 47MF	20% 30% 20%	50V 16V 16V			D712 D713 D714	8-719-000-26 8-719-933-49 8-719-933-41	DIODE US1060M DIODE HZS7C1L DIODE HZS6C3L		
C809 C810 C811	1-124-927-11 1-123-875-11 1-161-494-00	ELECT ELECT CERAMIC	4.7MF 1 OMF 0.022MF	20% 20%	50V 50V 25V			D801 D802 D803	8-719-200-77 8-719-000-26 8-719-000-26	DIODE 10E2N DIODE US1060M DIODE US1060M		
C812 C813 C814	1-124-925-11 1-126-176-11 1-124-927-11	ELECT ELECT ELECT	2.2MF 220MF 4.7MF	20% 20% 20%	50V 10V 50V		·	D804 D805 D806	8-719-000-26 8-719-000-26 8-719-200-77	DIODE US1060M DIODE US1060M DIODE 10E2N		
C815 C816 C901	1-124-927-11 1-161-494-00 1-164-159-11	ELECT CERAMIC CERAMIC	4.7MF 0.022MF 0.1MF	20%	50V 25V 50V			D807 D808 D809	8-719-200-77 8-719-000-26 8-719-000-26	DIODE 10E2N DIODE US1060M DIODE US1060M		
C902 C905 C906	1-164-159-11 1-164-159-11 1-164-159-11	CERAMIC CERAMIC CERAMIC	0.1MF 0.1MF 0.1MF		50V 50V 50V			D810 D811	8-719-000-26 8-719-000-26	(WR10ES,WR810:E	DIODE U	S1060M OR US)
C909 C910 C913	1-164-159-11	CERAMIC CERAMIC CERAMIC	0.1MF 0.1MF 0.1MF		50V 50V 50V			D901 D902	8-719-812-42 8-719-303-00	DIODE TLY124 DIODE SEL2510C	DIODE U	SIUDUM
C914 C931 C951	1-164-159-11	CERAMIC CERAMIC ELECT	0.1MF 0.1MF 100MF	20%	50V 50V 10V		-	D903 D904 D905	8-719-812-42 8-719-300-71 8-719-303-84	DIODE TLY124 DIODE SEL221OR DIODE SEL4914D		
C952 C953 C954	1-124-925-11	CERAMIC ELECT ELECT	0.022MF 2.2MF 2.2MF	20% 20%	25V 50V 50V			D906 D907 D908 D909	8-719-812-42 8-719-303-00 8-719-812-42	DIODE SEL2510C DIODE TLY124		
CNP11 *	*1-506-615-11	PIN, CONNECTO	R 9P					D910	8-719-300-71 8-719-303-84	DIODE SEL221OR DIODE SEL4914D		
	*1-564-341-11 *1-564-340-00	(WR10ES,WR810	.PIN, CONNEC	CTOR 7P				D931 D932	8-719-948-81 8-719-948-79	DIODE GL8NG34T DIODE GL8HD34T		
CNP14	*1-564-707-11 *1-564-704-11 *1-564-506-11	PIN, CONNECTO PIN, CONNECTO PLUG, CONNECT	IR (SMALL TYF					D933 D934 D951 D952		DIODE GL8HD34T DIODE GL8HD34T DIODE US1060M DIODE US1060M		
	*1-564-337-00 *1-564-496-11	(WR10ES,WR810 (WR10ES,WR810										

Ref.No. Part No.	Description	Ref.No.	Part No.	Description
FLT951 1-519-447-11 HE901 1	INDICATOR TUBE, FLUORESCENT	0505 0506 0507	8-729-900-65	TRANSISTOR DTA144ES TRANSISTOR DTA144ES TRANSISTOR BAIL4M
HRP901 A-2108-043-C	(WR10ES,WR810:EXCEPT FOR US)CHASSIS ASSY, HEAD	0701 0702	8-729-920-91 8-729-808-76	TRANSISTOR 2SB1187-F TRANSISTOR 2SD1761-E
HRP901 A-2108-044-C	(WR810)CHASSIS ASSY, HEAD	0703	8-729-119-78	TRANSISTOR 2SC2785-HFE TRANSISTOR 2SD1761-E
	IC LM339N IC UPC4570C-1 IC UPC1297CA	0705 0706	8-729-119-76 8-729-802-22	TRANSISTOR 2SA1175-HFE TRANSISTOR 2SB1014
IC501 8-759-040-53 IC502 8-752-018-70 IC503 8-752-033-61	IC CX20187	0801 0802 0803	8-729-119-76	TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE
IC504 8-759-240-52 IC505 8-752-033-61 IC506 8-759-208-06	IC TC4052BP IC CXA1198AP	0804 0805 0806		TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE
IC507 8-759-601-23 IC508 8-759-945-58 IC509 8-759-945-58	IC M4023BP IC RC4558P	Q807 Q808 Q809	8-729-119-76 8-729-119-76 8-729-900-61	TRANSISTOR 2SA1175-HFE TRANSISTOR 2SA1175-HFE TRANSISTOR DTA114ES
10510 8-759-945-58 10701 8-759-945-58 10801 8-759-633-23	IC RC4558P IC RC4558P	Q810 Q811 Q812	8-729-900-61 8-729-900-83 8-729-119-78	TRANSISTOR DTA114ES TRANSISTOR DTC124XS TRANSISTOR 2SC2785-HFE
1C802 8-759-240-71 1C901 8-741-161-00 1C951 8-759-983-68	IC TC4071BP IC SBX1610-51	Q813 Q814 Q815	8-729-119-78	TRANSISTOR DTC124XS TRANSISTOR 2SC2785-HFE TRANSISTOR 2SA1175-HFE
J501 1-565-258-11 J502 1-507-796-71	JACK, PIN 4P (LINE IN/OUT)	Q816 Q817 Q818	8-729-900-65 8-729-900-65 8-729-900-65	TRANSISTOR DTA144ES TRANSISTOR DTA144ES TRANSISTOR DTA144ES
L41 1-410-780-11 L61 1-410-780-11	INDUCTOR 27MMH INDUCTOR 27MMH	Q819 Q820 Q821	8-729-801-93 8-729-116-57 8-729-900-65	TRANSISTOR 2SD1387 TRANSISTOR 2SB1013 TRANSISTOR DTA144ES
LPF101 1-236-475-11 LPF201 1-236-475-11	FILTER, LOW PASS FILTER, LOW PASS	0822		TRANSISTOR 2SD1387
M901 X-3343-408-1	MOTOR ASSY	Q823 Q824	8-729-116-57 8-729-119-76	TRANSISTOR 2SB1013 TRANSISTOR 2SA1175-HFE
	LINK, IC(0.8A)	0825 0901 0951	8-729-801-93 8-729-900-65 8-729-900-65	TRANSISTOR 2SD1387 TRANSISTOR DTA144ES TRANSISTOR DTA144ES
	TRANSISTOR 2SA1175-HFE TRANSISTOR GP2S09-C (WR10ES,WR810:EXCEPT FOR US)TRANSISTOR GP2S09-C	0952 0953 0954 0955	8-729-900-65	TRANSISTOR DTA144ES TRANSISTOR DTA144ES TRANSISTOR 2SC2785-HFE TRANSISTOR 2SC2785-HFE
Q15 8-719-939-23 Q21 8-729-900-65 Q81 8-729-116-57 Q82 8-729-194-57	TRANSISTOR GP2S09-C TRANSISTOR DTA144ES TRANSISTOR 2SB1013 TRANSISTOR 2SC945-P	R11 R12 R13	1-247-834-11 1-249-414-11 1-247-818-11	CARBON 1.3K 5% 1/4W CARBON 560 5% 1/4W CARBON 300 5% 1/4W
Q83 8-729-194-57 Q101 8-729-115-77 Q102 8-729-115-77	TRANSISTOR 2SC945-P TRANSISTOR BAIL 4M TRANSISTOR BAIL 4M	R14 R15 R16	1-249-408-11 1-249-413-11 1-249-410-11	CARBON 180 5% 1/4W CARBON 470 5% 1/4W (WR10ES,WR810:EXCEPT FOR US)CARBON 270 5% 1/4W
0103 8-729-922-37 0104 8-729-922-37 0105 8-729-922-37	TRANSISTOR 2SD2144S TRANSISTOR 2SD2144S TRANSISTOR 2SD2144S	R17 R18 R21	1-249-437-11 1-249-437-11 1-249-425-11	CARBON 47K 5% 1/4W CARBON 47K 5% 1/4W CARBON 4.7K 5% 1/4W
0201 8-729-115-77 0202 8-729-115-77 0203 8-729-922-37	TRANSISTOR BAIL4M TRANSISTOR BAIL4M TRANSISTOR 2SD2144S	R22 R23 R24 R25	1-249-421-11 1-249-421-11 1-249-423-11 1-249-429-11	CARBON 2.2K 5% 1/4W CARBON 2.2K 5% 1/4W CARBON 3.3K 5% 1/4W CARBON 10K 5% 1/4W
0204 8-729-922-37 0205 8-729-922-37 0501 8-729-900-65	TRANSISTOR 2SD2144S TRANSISTOR 2SD2144S TRANSISTOR DTA144ES	R26 R26	1-249-428-11 1-249-431-11	(WR810:US)CARBON 8.2K 5% 1/4W (WR10ES, WR810:EXCEPT FOR US)CARBON 15K 5% 1/4W
Q502 8-729-900-65 Q503 8-729-900-65 Q504 8-729-900-65	TRANSISTOR DTA144ES TRANSISTOR DTA144ES TRANSISTOR DTA144ES			

Ref.No.	Part No.	Description		Ref.No.	Part No.	Description			
R27 R27	1-249-423-11 1-249-425-11	(WR810:US)CARBON 3.3K 5% (WR10ES,WR810:EXCEPT FOR US)CARBON 4.7K 5%	1/4W 1/4W	R103 R104 R105	1-249-423-11 1-247-887-00 1-249-430-11	CARBON CARBON CARBON	3.3K 220K 12K	5% 5% 5%	1/4W 1/4W 1/4W
R28 R28	1-249-421-11 1-249-425-11	(WRIDES, WR810: EXCEPT FOR US)	1/4W 1/4W	R106 R107 R108	1-249-423-11 1-249-441-11 1-249-428-11	CARBON CARBON CARBON	3.3K 100K 8.2K	5% 5% 5%	1/4W 1/4W 1/4W
R29	1-249-420-11	(WR10ES; WR810: EXCEPT FOR US)CARBON 1.8K 5%	1/4W	R109 R110 R111	1-249-422-11 1-249-425-11 1-247-822-11	CARBON CARBON CARBON	2.7K 4.7K 430	5% 5% 5%	1/4W 1/4W 1/4W
R41 R41	1-247-881-00 1-249-435-11	(WR810:US)CARBON 120K 5% (WR10ES; WR810:EXCEPT FOR US)CARBON 33K 5%	1/4W 1/4W	R112 R113 R114	1-249-427-11 1-249-415-11 1-249-429-11	CARBON CARBON CARBON	6.8K 680 10K	5% 5% 5%	1/4W 1/4W 1/4W
R42 R42	1-249-404-00 1-249-405-11		1/4W 1/4W	R115 R116	1-249-427-11 1-249-425-11	CARBON CARBON	6.8K 4.7K	5% 5%	1/4W 1/4W
R43 R44	1-247-882-11 1-249-426-11	CARBON 130K 5% 1/4W CARBON 5.6K 5% 1/4W	-	R117 R118	1-249-425-11 1-249-425-11	CARBON CARBON	4.7K	5% 5%	1/4W 1/4W
R45	1-249-428-11	(WR10ES,WR810:EXCEPT FOR US)CARBON 8.2K 5%	1/4W	R119 R120	1-249-429-11 1-249-427-11	CARBON CARBON	10K 6.8K		1/4W 1/4W
R45 R51	1-249-430-11 1-249-434-11	(WR810:US)CARBON 27K 5%	1/4W 1/4W	R121 R122 R123	1-249-425-11 1-249-425-11 1-249-425-11	CARBON CARBON CARBON	4.7K 4.7K 4.7K	5% 5% 5%	1/4W 1/4W 1/4W
R51	1-249-435-11		1/4W	R124 R125 R126	1-249-421-11 1-249-436-11 1-249-421-11	CARBON CARBON CARBON	2.2K 39K 2.2K	5% 5% 5%	1/4W 1/4W 1/4W
R52 R53	1-249-393-11 1-247-883-00	CARBON 10 5% 1/4W CARBON 150K 5% 1/4W		R127	1-249-417-11	CARBON	1K	5%	1/4W
R54 R54	1-249-429-11		1/4W 1/4W	R128 R129	1-249-421-11 1-249-419-11	CARBON CARBON	2.2K 1.5K	5% 5%	1/4W 1/4W
R61 R61	1-247-881-00 1-249-435-11	(WR10ES, WR810: EXCEPT FOR US)	1/4W 1/4W	R130 R131 R132	1-249-409-11 1-249-429-11 1-249-437-11	CARBON CARBON CARBON	220 10K 47K	5% 5% 5%	1/4W 1/4W 1/4W
R62 R62	1-249-404-00		1/4W	R133 R134 R135	1-249-429-11 1-249-401-11 1-249-417-11	CARBON CARBON CARBON	10K 47 1K	5% 5% 5%	1/4W 1/4W 1/4W
R63 R64	1-249-405-11 1-247-882-11 1-249-426-11	CARBON 130K 5% 1/4W CARBON 5.6K 5% 1/4W	1/4W	R201 R202 R203	1-249-433-11 1-249-423-11 1-249-423-11	CARBON CARBON CARBON	22K 3.3K 3.3K	5% 5% 5%	1/4W 1/4W 1/4W
R65	1-249-428-11	_	1/4W	R204 R205 R206	1-247-887-00 1-249-430-11 1-249-423-11	CARBON CARBON CARBON	220K 12K 3.3K	5% 5% 5%	1/4W 1/4W 1/4W
R65 R71 R71	1-249-430-11 1-249-434-11 1-249-435-11	(WR810:US)CARBON 12K 5% (WR810:US)CARBON 27K 5% (WR10ES.WR810:EXCEPT FOR US)	1/4W 1/4W	R207 R208	1-249-441-11 1-249-428-11	CARBON CARBON	100K 8.2K	5% 5%	1/4W 1/4W
R72 R73	1-249-393-11 1-247-883-00	CARBON 10 5% 1/4W	1/4W	R209 R210 R211	1-249-422-11 1-249-425-11 1-247-822-11	CARBON CARBON CARBON	2.7K 4.7K 430		1/4W 1/4W
R74 R74	1-249-433-11	(WR810:US)CARBON 22K 5% (WR10ES.WR810:EXCEPT FOR US)	1/4W	R212 R213	1-249-427-11 1-249-415-11	CARBON CARBON	6.8K 680	5% 5%	1/4W 1/4W
R81	1-249-409-11	CARBON 220 5% 1/4W	1/4W	R214 R215 R216	1-249-429-11 1-249-427-11 1-249-425-11	CARBON CARBON CARBON	10K 6.8K 4.7K		1/4W 1/4W 1/4W
	1-249-409-11 1-212-849-00	CARBON 220 5% 1/4W FUSIBLE 4.7 5% 1/4W CARBON 47K 5% 1/4W	F	R217 R218	1-249-425-11	CARBON CARBON	4.7K 4.7K	5% 5%	1/4W 1/4W
R85 R86 R87	1-249-437-11 1-249-437-11 1-249-429-11	CARBON 47K 5% 1/4W CARBON 10K 5% 1/4W		R219 R220 R221	1-249-429-11 1-249-427-11 1-249-425-11	CARBON CARBON CARBON	10K 6.8K 4.7K	5% 5% 5%	1/4W 1/4W 1/4W
R88 R101 R102	1-249-429-11 1-249-433-11 1-249-423-11	CARBON 10K 5% 1/4W CARBON 22K 5% 1/4W CARBON 3.3K 5% 1/4W		R222 R223 R224	1-249-425-11 1-249-425-11 1-249-421-11	CARBON CARBON CARBON	4.7K 4.7K 2.2K	5%	1/4W 1/4W 1/4W
		4							

Note:
The components identified by mark A or dotted line with mark are critical for safety.
Replace only with part number specified.

Note:
Les composants identifiés par une marque A sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description		
R225	1-249-436-11			1/4W		R523	1-249-434-11	(WR10ES, WR810: EXCEP		. 1 //11
R226 R227	1-249-421-11 1-249-417-11	CARBON 2.2 CARBON 1K	K 5% 5%	1/4W 1/4W		R523	1-249-439-11	CARBO (WR810:US)CARBO		*.
R228	1-249-421-11		K 5%	1/4W		R524	1-249-438-11	CARBON 56K	5% 1/4W	i
R229 R230	1-249-419-11 1-249-409-11	CARBON 1.5 CARBON 220		1/4W 1/4W		R525	1-247-876-11	(WR10ES, WR810: EXCEP		
R231	1-249-429-11	CARBON 10K		1/4W		R525	1-249-439-11	CARBO (WR810:US)CARBO		
R232 R233	1-249-437-11 1-249-429-11	CARBON 47K CARBON 10K		1/4W 1/4W		R526	1-249-433-11	CARBON 22K	5% 1/4W	
R234	1-249-401-11	CARBON 47	5%	1/4W		R527 R528	1-249-433-11 1-249-429-11	CARBON 22K CARBON 10K	5% 1/4V 5% 1/4W	
R235 R501	1-249-417-11 1-249-433-11	CARBON 1K CARBON 22K	5% 5%	1/4W 1/4W		R529	1-249-425-11	CARBON 4.7K		
R502	1-249-433-11	CARBON 22K		1/4W		R531	1-247-864-11	CARBON 24K	5% 1/4W	
R503 R504	1-215-469-00 1-249-433-11	METAL 100 CARBON 22K		1/6W 1/4W		R532 R532	1-249-439-11 1-249-440-11	(WR810:US)CARBO (WR10ES,WR810:EXCEP	T FOR US)	6 1/4W
R505	1-249-433-11	CARBON 22K	5%	1/4W				CARBO		3 1/4W
R506 R507	1-249-433-11 1-247-864-11	CARBON 22K CARBON 24K	5% 5%	1/4W 1/4W		R533	1-249-437-11	(WR10ES,WR810:EXCEP	N 47K 5%	6 1/4W
R508	1-249-439-11	(WR810:US)CAR			1/4W	R533	1-249-439-11	(WR810:US)CARBO		•
R508	1-249-440-11	(WR10ES,WR810:EXC	BON 82K		1/4W	R534 R534	1-247-881-00 1-247-883-00	(WR810:US)CARBO (WR10ES,WR810:EXCEP	T FOR US)	
R509	1-249-437-11	(WR10ES, WR810: EXC			3.7411	DESE	1 047 076 11		N 150K 5%	; 1/4W
R509	1-249-439-11	CAR (WR810:US)CAR			1/4W 1/4W	R535	1-247-876-11	(WR10ES,WR810:EXCEP	N 75K 5%	
R510	1-247-881-00	(WR810:US)CAR		K 5%	1/4W	R535	1-249-440-11	(WR810:US)CARBO		
R510	1-247-883-00	(WR10ES,WR810:EXC	EPT FOR 1 BON 150		1/4W	R536	1-249-436-11	CARBON 39K	•	
R511	1-247-876-11	(WR10ES,WR810:EXC			2 (81)	R537	1-247-868-11	(WR10ES,WR810:EXCEP	N 36K 5%	
R511	1-249-440-11	CAR (WR810:US)CAR			1/4W 1/4W	R537	1-249-437-11	(WR810:US)CARBO		•
R512	1-249-436-11	CARBON 39K	5%	1/4W		R538	1-247-891-00		·	
R513	1-247-868-11	(WR10ES, WR810: EXC			2 /411	R539 R539	1-247-876-11 1-249-438-11	(WR810:US)CARBO (WR10ES,WR810:EXCEP	T FOR US)	5 1/4W
R513	1-249-437-11	CAR (WR810:US)CAR			1/4W 1/4W	DE40	1 047 001 00	CARBO		1/4W
R514	1-247-891-00	CARBON 330	< 5%	1/4W		R540	1-247-881-00	(WR10ES,WR810:EXCEP	N 120K 5%	
R515	1-247-876-11	(WR810:US)CARI			1/4W	R540	1-249-441-11	(WR810:US)CARBO		·
R515	1-249-438-11	(WR10ES,WR810:EXC	30N 56K		1/4W	R541 R541	1-247-878-00 1-249-440-11	(WR810:US)CARBO (WR10ES,WR810:EXCEP	T FOR US)	3 1/4W
R516	1-247-881-00	(WR10ES,WR810:EXC				5540	1 047 070 11	CARBO		3 1/4W
R516	1-249-441-11	(WR810:US)CAR	30N 1201 30N 1001	K 5% K 5%		R542	1-247-872-11		5% 1/4W	
R517	1-247-878-00	(WR810:US)CAR			1/4W	R543	1-247-874-11	(WR10ES,WR810:EXCEP	N 62K 5%	1/4W
R517	1-249-440-11	(WR10ES,WR810:EXCI	2PT FOR 0 30N 82K		1/4W	R543	1-249-439-11	(WR810:US)CARBO		·
R518	1-247-872-11	CARBON 51K	5%	1/4W		R544 R544	1-247-891-00 1-249-435-11	(WR810:US)CARBO (WR10ES,WR810:EXCEP	T FOR US)	
R519	1-247-874-11	(WR10ES, WR810: EXC			1 //1	DEAL	1 040 420 11	CARBO		1/4W
R519	1-249-439-11	CARI	30N 62K 30N 68K		1/4W 1/4W	R545 R545	1-249-439-11 1-249-441-11	(WR810:US)CARBO (WR10ES,WR810:EXCEP	T FOR US)	1/4W
R520	1-247-891-00	(WR810:US)CAR			1/4W	DEAC	1 040 400 11		N 100K 5%	1/4W
R520	1-249-435-11	(WR10ES,WR810:EXCI	30N 33K		1/4W	R546	1-249-438-11	(WR10ES,WR810:EXCEP	N 56K 5%	1/4W
R521	1-249-439-11	(WR810:US)CARI (WR10ES,WR810:EXC			1/4W	R546 R547	1-249-440-11	(WR810:US)CARBO		1/4W
R521 R522	1-249-441-11		30N 100I	K 5%	1/4W 1/4W	R547	1-249-434-11	(WR10ES,WR810:EXCEPCARBO	N 27K 5%	1/4W
R522	1-249-438-11	(WR10ES, WR810: EXC	PT FOR	US)		R547		(WR810:US)CARBO		
		UAKI	30N 56K	3%	1/4W	, K548	1-249-438-11	CARBON 56K	5% 1/4W	

	Ref.No.	Part No.	Description			Ref.No.	Part No.	Description			
1-249-439-11 (WR010:US) CARBON SOK 55 1/4W S575 1-249-425-11 CARBON LOKE 52 1/4W S575 1-249-435-11 (WR010:US) CARBON S0X 52 1/4W S580 1-249-421-11 CARBON LOKE 52 1/4W S580 1-249-435-11 (WR010:US) CARBON S0X 52 1/4W S580 1-249-421-11 CARBON LOKE 52 1/4W S580 1-249-435-11 (WR010:US) CARBON S0X 52 1/4W S580 1-249-421-11 CARBON LOKE 52 1/4W S580 1-249-435-11 (WR010:US) CARBON S0X 52 1/4W S580 1-249-421-11 CARBON LOKE 52 1/4W S580 1-249-435-11 (WR010:US) CARBON S0X 52 1/4W S580 1-249-432-11 CARBON LOKE 52 1/4W S580 1-249-432-11 CARBON S0X 52 1/4W S580 1-249-432-11 (WR010:US) CARBON LOKE 52 1/4W S580 1-249-432-11 CARBON LOKE 52 1/4W S780 1-249-432-11 CARBON S0X 52 1/4W	R549	1-247-876-11		-	7 (411					5%	1/4W
R550 1-247-883-00 (URB10:US) CARBON 150K 55 1/4M R578 1-249-423-11 CARBON 3.0% 5% 1/4M R578 1-249-433-11 (URB10:US) CARBON 37K 55 1/4M R588 1-249-423-11 CARBON 37K 55 1/4M R588 1-249-433-11 (URB10:US) CARBON 56K 55 1/4M R588 1-249-433-11 (URB10:US) CARBON 22K 55 1/4M R588 1-249-432-11 CARBON 37K 55 1/4M R588 1-249-432-11 CARBON 27K 55 1/4M R588 1-249-432-11 CARBON 27K 55 1/4M R588 1-249-432-11 CARBON 27K 55 1/4M R588 1-249-432-11 CARBON 37K	R549	1-249-439-11									
R550 1-247-883-10 (WR010:S)CARBON 150K 5\$ 1/4W R578 1-249-435-11 (WR10:S,WR010:EXCEPT FOR US) R552 1-249-435-11 (WR010:S)CARBON 33K 5\$ 1/4W R553 1-249-435-11 (WR010:S)CARBON 22K 5\$ 1/4W R553 1-249-433-11 (WR010:S)CARBON 22K 5\$ 1/4W R554 1-249-433-11 (WR010:S)CARBON 22K 5\$ 1/4W R555 1-249-433-11 (WR010:S)CARBON 12K 5\$ 1/4W R556 1-247-881-10 (WR010:S)CARBON 12K 5\$ 1/4W R556 1-249-433-11 (WR010:S)CARBON 12K 5\$ 1/4W R556 1-249-433-11 (WR010:S)CARBON 27K 5\$ 1/4W R557 1-249-433-11 (WR010:S)CARBON 37K 5\$ 1/4W R557 1-249-433-11 (WR010:S)CARBON 37K 5\$ 1/4W R556 1-247-881-10 (WR010:S)CARBON 37K 5\$ 1/4W R557 1-249-433-11 (WR010:S)CARBON 37K 5\$ 1/4W R556 1-247-834-11 (WR010:S)CARBON 37K 5\$ 1/4W R556 1-249-433-11 (WR010:S)CARBON 37K 5\$ 1/	R550	1-247-881-00			1 /4W						
R551 1-249-437-11 (MR810:US)CARBON 37X \$5 1/4W R552 1-249-435-11 (MR10ES, WR810:EVEEPT FOR US) R552 1-249-435-11 (WR810:US)CARBON 56K \$5 1/4W R553 1-249-433-11 (WR810:US)CARBON 56K \$5 1/4W R554 1-249-432-11 CARBON 10K \$5 1/4W R555 1-249-433-11 (WR810:US)CARBON 22K \$5 1/4W R555 1-249-433-11 (WR10ES, WR810:EVEEPT FOR US) R555 1-249-433-11 (WR10ES, WR810:EVEEPT FOR US) R556 1-249-433-11 (WR10ES, WR810:EVEEPT FOR US) R556 1-249-433-11 (WR10ES, WR810:EVEEPT FOR US) R557 1-249-433-11 (WR10ES, WR810:EVEEPT FOR US) R558 1-249-435-11 CARBON 22K \$5 1/4W R558 1-249-435-11 CARBON 22K \$5 1/4W R559 1-249-433-11 (WR10ES, WR810:EVEEPT FOR US) R558 1-249-435-11 CARBON 22K \$5 1/4W R559 1-249-433-11 CARBON 22K \$5 1/4W R559 1-249-433-11 CARBON 22K \$5 1/4W R559 1-249-433-11 CARBON 22K \$5 1/4W R559 1-249-435-11 CARBON 22K \$5 1/4W R559 1-249-436-11 CARBON 22K \$5 1/4W R559 1-249-437-11 CARBON 22K \$5 1/4W R559 1-249-437-11 CARBON 22K \$5 1/4W R560 1-249-437-11 CARBON 33K \$5 1/4W R561 1-249-437-11 CARBON 22K \$5 1/4W R562 1-249-437-11 CARBON 33K \$5 1/4W R566 1-249-437-11 CARBON 66K \$5 1/4W R567 1-249-437-11 CARBON 10K \$5 1/4W R567 1-249-437-11	R550	1-247-883-00									
R552 1-249-435-11 (WR10CS, WRB10:EXCEPT FOR US) R552 1-249-435-11 (WR10CS, WRB10:EXCEPT FOR US) R553 1-249-436-11 (WR10CS, WRB10:EXCEPT FOR US) R554 1-247-866-11 (WR10CS, WRB10:EXCEPT FOR US) R555 1-249-433-11 (WR10CS, WRB10:EXCEPT FOR US) R555 1-249-433-11 (WR10CS, WRB10:EXCEPT FOR US) R555 1-249-433-11 (WR10CS, WRB10:EXCEPT FOR US) R556 1-249-434-11 (WR10CS, WRB10:EXCEPT FO	R551	1-249-435-11			1 /4W						
R552 1-249-438-11 (MR810:US)CARBON 35K 51 1/4M R553 1-249-429-11 CARBON 10K 52 1/4M R553 1-249-439-11 (MR810:US)CARBON 24K 53 1/4M R553 1-249-439-11 CARBON 10K 52 1/4M R553 1-249-439-11 (MR810:US)CARBON 24K 53 1/4M R554 1-249-439-11 CARBON 10K 52 1/4M R555 1-249-439-11 (MR810:US)CARBON 12K 53 1/4M R555 1-249-439-11 (MR810:US)CARBON 12K 53 1/4M R555 1-249-433-11 (MR810:US)CARBON 12K 53 1/4M R707 1-249-429-11 CARBON 1.5K 53 1/4M R556 1-249-433-11 (MR810:US)CARBON 12K 53 1/4M R707 1-249-429-11 CARBON 1.5K 53	R551	1-249-437-11									
R552 1-249-439-11 (WR810:US)CARBON 56K 5% 1/4M R563 1-249-429-11 CARBON 10K 5% 1/4M R563 1-249-433-11 (WR10:S.) WR810:EXCEPT FOR US) R701 1-249-413-11 CARBON 1 K5 1/4M R701 1-249-413-11 CARBON 1 L5 1/4M R704 1-249-413-11 CARBON 1 L5 1/4M R705 1-249-431-11 CARBON 1 L5 1/4M R706 1-249-413-11 CARBON 1 L5 1/4M R708 1-249-433-11 CARBON 1 L5 1/4M R708 1-249-433-11 CARBON 1 L5 1/4M R708 1-249-433-11 CARBON 1 L5 1/4M R708 1-249-431-11 CARBON 1 L5 1/4M R709 1-249-431-11 CARBON 1 L5 1/4M	R552	1-249-435-11			1 //W	1					
R553 1-249-433-11 WRIOES, WRBIOLEXCEPT FOR US) CARBON 24	R552	1-249-438-11									
R555 1-249-432-11 (WR10ES_WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R555 1-249-433-11 (WR810:US)CARBON 18K 5% 1/4W R556 1-249-843-11 (WR810:US)CARBON 12K 5% 1/4W R556 1-249-441-11 (WR10ES_WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R557 1-249-436-11 (WR10ES_WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R558 1-249-436-11 (WR10ES_WR810:EXCEPT FOR US) R558 1-249-436-11 (WR810:US)CARBON 39K 5% 1/4W R559 1-249-436-11 (WR810:US)CARBON 39K 5% 1/4W R560 1-247-870-00 (WR810:US)CARBON 39K 5% 1/4W R561 1-249-436-11 (WR810:US)CARBON 39K 5% 1/4W R561 1-249-436-11 (WR810:US)CARBON 39K 5% 1/4W R562 1-249-437-11 (WR810:US)CARBON 43K 5% 1/4W R563 1-249-437-11 (WR810:US)CARBON 39K 5% 1/4W R564 1-249-437-11 (WR810:US)CARBON 39K 5% 1/4W R565 1-249-437-11 (WR810:US)CARBON 39K 5% 1/4W R566 1-249-437-11 (WR810:US)CARBON 39K 5% 1/4W R566 1-249-437-11 (WR810:US)CARBON 39K 5% 1/4W R566 1-249-437-11 (WR810:US)CARBON 86K 5% 1/4W R566 1-249-437-11 (WR810:US)CARBON 86K 5% 1/4W R566 1-249-437-11 (WR810:US)CARBON 86K 5% 1/4W R566 1-249-437-11 (WR810:US)CARBON 18K 5% 1/4W R567 1-249-437-11 (WR810:US)CARBON 18K 5% 1/4W R568 1-249-437-11 (WR810:US)CARBON 18K 5% 1/4W R569			(WRIOES, WR810: EXCEPT	FOR US)		R701	1-249-413-11	CARBON	470	5%	1/4W
R555 1-249-433-11 (WR10ES, WR810:EXCEPT FOR US) L-249-433-11 (WR810:US)CARBON 18K 5% 1/4W R556 1-249-433-11 (WR810:US)CARBON 22K 5% 1/4W R706 1-249-425-11 CARBON 4/7K 5% 1/4W R556 1-249-441-11 (WR10ES, WR810:EXCEPT FOR US) L-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-436-11 (WR810:US)CARBON 39K 5% 1/4W R558 1-249-434-11 (WR10ES, WR810:EXCEPT FOR US) L-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-435-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 12K 5% 1/4W R561 1-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R561 1-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R561 1-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R561 1-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R561 1-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R562 1-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R562 1-249-436-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R566 1-249-437-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R566 1-249-437-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R566 1-249-437-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R566 1-249-437-11 (WR10ES, WR810:EXCEPT FOR US) L-249-407-11 CARBON 15K 5% 1/4W R566 1-249-433-11 CARBON 66K 5% 1/4W R566 1-249-433-11 CARBON 66K 5% 1/4W R566 1-249-433-11 CARBON 15K 5% 1/4W R566 1-249-433-11 CARBON 15K 5% 1/4W R566 1-	R554	1-247-870-11	CARBON 43K	5% 1/4W							
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R561 1-249-436-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 39K 5% 1/4W R562 1-249-83-00 (WR810:US)CARBON 150K 5% 1/4W R562 1-249-441-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 100K 5% 1/4W R563 1-249-437-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 47K 5% 1/4W R563 1-249-439-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 68K 5% 1/4W R564 1-249-439-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 100K 5% 1/4W R565 1-249-439-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R566 1-249-439-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R565 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R565 1-249-439-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R566 1-249-439-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R567 1-249-439-11 (WR810:US)CARBON 18K 5% 1/4W R568 1-249-439-11 (WR810:US)CARBON 18K 5% 1/4W R569 1-249-433-11 (WR810:US)CARBON 33K 5% 1/4W R568 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R569 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R569 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-2	R560	1-247-874-11	CARBON 62K 5	5% 1/4W		R805	1-249-407-11	CARBON	150	5%	1/4W
CARBON 39K 5% 1/4W R808 1-249-409-11 CARBON 220 5% 1/4W R806 1-249-409-11 CARBON 270 5% 1/4W R806 1-249-441-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 100K 5% 1/4W R810 1-249-421-11 CARBON 2.2K 5% 1/4W R863 1-249-437-11 (WR10ES,WR810:EXCEPT FOR US) R810 1-249-421-11 CARBON 2.2K 5% 1/4W R813 1-249-421-11 CARBON 2.2K 5% 1/4W R814 1-249-425-11 CARBON 2.2K 5% 1/4W R815 1-249-435-11 (WR010ES,WR810:EXCEPT FOR US) R811 1-249-435-11 (WR010ES,WR810:EXCEPT FOR US) R812 1-249-425-11 CARBON 2.2K 5% 1/4W R814 1-249-425-11 CARBON 4.7K 5% 1/4W R815 1-249-425-11 CARBON 4.7K 5% 1/4W R816 1-249-425-11 CARBON 4.7K 5% 1/4W R817 1-249-425-11 CARBON 1K 5% 1/4W R816 1-249-425-11 CARBON 1K 5% 1/4W R817 1-249-425-11 CARBON 1K 5% 1/4W R817 1-249-425-11 CARBON 1K 5% 1/4W R816 1-249-429-11 CARBON 1K 5% 1/4W R817 1-249-427-11 CARBON 1K 5% 1/4W R818 1-249-427-11 CARBON 1K 5% 1/4W R819 1-249-429-11 CARBON 1K 5% 1/4W R820 1-249-429-11 CARBON 1K 5% 1/4W R820 1-249-429-11 CARBON 1K 5% 1/4W R821 1-249-421-11 CARBON 1K 5% 1/4W R821 1-249-421-11 CARBON 1K 5% 1/4W R821 1-249-429-11 CARBON 10K 5% 1/4W R82					1/4W				150	•	1/4W
R562 1-247-883-00 (WR810:US)CARBON 150K 5% 1/4W R562 1-249-441-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 100K 5% 1/4W R811 1-249-421-11 CARBON 2.2K 5% 1/4W R813 1-249-421-11 CARBON 2.2K 5% 1/4W R814 1-249-425-11 CARBON 4.7K 5% 1/4W R815 1-249-435-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 16K 5% 1/4W R814 1-249-425-11 CARBON 4.7K 5% 1/4W R815 1-249-425-11 CARBON 4.7K 5% 1/4W R815 1-249-425-11 CARBON 4.7K 5% 1/4W R815 1-249-425-11 CARBON 4.7K 5% 1/4W R816 1-249-435-11 (WR810:US)CARBON 16K 5% 1/4W R816 1-249-417-11 CARBON 1K 5% 1/4W R8565 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 16K 5% 1/4W R8565 1-249-439-11 (WR810:US)CARBON 16K 5% 1/4W R8566 1-249-439-11 CARBON 68K 5% 1/4W R8566 1-249-439-11 CARBON 68K 5% 1/4W R8566 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R8566 1-249-433-11 (WR810:US)CARBON 33K 5% 1/4W R820 1-249-429-11 CARBON 10K 5% 1/4W R8566 1-249-433-11 (WR810:US)CARBON 33K 5% 1/4W R820 1-249-429-11 CARBON 10K 5% 1/4W R8568 1-249-433-11 (WR810:US)CARBON 47K 5% 1/4W R821 1-249-429-11 CARBON 10K 5% 1/4W R8568 1-249-433-11 CARBON 22K 5% 1/4W R8569 1-249-433-11 CARBON 22K 5% 1/4W R8569 1-249-433-11 CARBON 22K 5% 1/4W R8570 1-249-433-11 CARBON 22K 5% 1/4W R8571 1-249-433-11 CARBON 22K 5% 1/4W R8571 1-249-429-11 CARBON 10K 5% 1/4W R8571 1-249-433-11 CARBON 22K 5% 1/4W R8571 1-249-433-11	Kool	1-249-430-11		•	1/4W						
CARBON 100K 5% 1/4W R563 1-249-437-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 47K 5% 1/4W R564 1-249-432-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R564 1-249-432-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R565 1-249-435-11 (WR810:US)CARBON 33K 5% 1/4W R566 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R565 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R566 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R566 1-249-439-11 (WR10ES,WR810:EXCEPT FOR US) R567 1-249-437-11 (WR810:US)CARBON 10K 5% 1/4W R567 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R568 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R569 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R569 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R569 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R560 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R561 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R562 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R563 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R564 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R565 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R566 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R567 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R568 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R569 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R570 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R571 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US) R571 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US) R571 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R571 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US) R571 1-249-433-11 (WR10ES,WR810:EXCEPT FOR US) R571 1-249-429-11 (WR					1/4W	R809	1-249-410-11	CARBON	270	5%	1/4W
R563 1-249-437-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 47K 5% 1/4W R564 1-249-432-11 (WR10ES,WR810:EXCEPT FOR US) R564 1-249-432-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R565 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US) R565 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US) R566 1-249-432-11 (WR10ES,WR810:EXCEPT FOR US) R566 1-249-432-11 (WR10ES,WR810:EXCEPT FOR US) R567 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-439-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R567 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-439-11 CARBON 68K 5% 1/4W R568 1-249-433-11 (WR810:US)CARBON 47K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-439-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-439-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-439-11 CARBON 22K 5% 1/4W R571 1-249-439-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W R571 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-439-11 CARBON 22K 5% 1/4W	R562	1-249-441-11			1/4W	R811	1-249-421-11	CARBON	2.2K	5%	
R563 1-249-439-11 (WR810:US)CARBON 68K 5% 1/4W R564 1-249-432-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R565 1-249-435-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R565 1-249-432-11 (WR810:US)CARBON 10K 5% 1/4W R566 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-437-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R568 1-249-437-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R825 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R	R563	1-249-437-11					1-249-421-11	CARBON	2.2K	5%	1/4W
R564 1-249-432-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 18K 5% 1/4W R564 1-249-435-11 (WR810:US)CARBON 33K 5% 1/4W R565 1-249-429-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 10K 5% 1/4W R565 1-249-432-11 (WR810:US)CARBON 18K 5% 1/4W R566 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-435-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R567 1-249-437-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R568 1-249-433-11 CARBON 47K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W	R563	1-249-439-11									
R564 1-249-435-11 (WR10ES, WR810: EXCEPT FOR US) R565 1-249-432-11 (WR10ES, WR810: EXCEPT FOR US) CARBON 10K 5% 1/4W R566 1-249-432-11 (WR10ES, WR810: EXCEPT FOR US) R566 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-435-11 (WR10ES, WR810: EXCEPT FOR US) CARBON 33K 5% 1/4W R567 1-249-437-11 (WR10ES, WR810: EXCEPT FOR US) CARBON 33K 5% 1/4W R568 1-249-437-11 (WR810: US)CARBON 47K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R821 1-249-429-11 CARBON 10K 5% 1/4W R822 1-249-429-11 CARBON 10K 5% 1/4W R823 1-249-429-11 CARBON 10K 5% 1/4W R824 1-249-429-11 CARBON 10K 5% 1/4W R825 1-249-429-11 CARBON 1 CARBON	R564	1-249-432-11	(WR10ES,WR810:EXCEPT			R815	1-249-425-11	CARBON	4.7K	5%	1/4W
R565 1-249-429-11 (WR10ES, WR810: EXCEPT FOR US)CARBON 10K 5% 1/4W R565 1-249-432-11 (WR810: US)CARBON 18K 5% 1/4W R566 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-435-11 (WR10ES, WR810: EXCEPT FOR US)CARBON 33K 5% 1/4W R567 1-249-437-11 (WR810: US)CARBON 47K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W	R564	1-249-435-11	CARBON (WR810:US)CARBON			R817	1-249-417-11	CARBON	1K	5%	1/4W
R565 1-249-432-11 (WR810:US)CARBON 18K 5% 1/4W R566 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-435-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R567 1-249-437-11 (WR810:US)CARBON 47K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W	R565	1-249-429-11			7.401						
R566 1-249-439-11 CARBON 68K 5% 1/4W R567 1-249-435-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R567 1-249-437-11 (WR810:US)CARBON 47K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W R671 1-249-429-11 CARBON 22K 5% 1/4W R671 1-249-433-11 CARBON 22K 5% 1/4W	R565	1-249-432-11	(WR810:US)CARBON			R820	1-249-429-11	CARBON	10K	5%	1/4W
R567 1-249-435-11 (WR10ES,WR810:EXCEPT FOR US)CARBON 33K 5% 1/4W R567 1-249-437-11 (WR810:US)CARBON 47K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W R827 1-247-903-00 CARBON 1M 5% 1/4W R828 1-249-433-11 CARBON 22K 5% 1/4W R829 1-249-433-11 CARBON 22K 5% 1/4W R829 1-249-433-11 CARBON 22K 5% 1/4W	R566	1-249-439-11	CARBON 68K 5	5% 1/4W					2.2K		
R567 1-249-437-11 (WR810:US)CARBON 47K 5% 1/4W R568 1-249-433-11 CARBON 22K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R571 1-249-429-11 CARBON 22K 5% 1/4W	R567	1-249-435-11									-
R568 1-249-433-11 CARBON 22K 5% 1/4W R569 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R828 1-249-433-11 CARBON 22K 5% 1/4W R829 1-249-433-11 CARBON 22K 5% 1/4W R829 1-249-433-11 CARBON 22K 5% 1/4W R829 1-249-433-11 CARBON 22K 5% 1/4W	R567	1-249-437-11	CARBON (WR810:US)CARBON				•				1/4W
R569 1-249-433-11 CARBON 22K 5% 1/4W R570 1-249-433-11 CARBON 22K 5% 1/4W R571 1-249-429-11 CARBON 10K 5% 1/4W R828 1-249-433-11 CARBON 22K 5% 1/4W R829 1-249-433-11 CARBON 22K 5% 1/4W											
R571 1-249-429-11 CARBON 10K 5% 1/4W R828 1-249-433-11 CARBON 22K 5% 1/4W R829 1-249-433-11 CARBON 22K 5% 1/4W											
1 200		1-249-429-11	CARBON 10K 5	5% 1/4W							

R833						
1-249-989-00 CARRON 470K 5% 1/4M 1916 1-249-42-11 CARBON 3.9K 5% 1/4 1983 1-249-436-11 (MRICES_MERIOLEKEEPT FOR IS) 1.4 1916 1-249-436-11 CARBON 3.5 1/4 1916 1-249-436-11 CARBON 3.5 1/4 1916 1-249-436-11 CARBON 3.5 1/4 1916 1-249-436-11 CARBON 1.5 5 1/4 1916 1-249-436-11 CARBON 1.5 5 1/4 1916 1-249-436-11 CARBON 1.5 1/4 1916 1/4 1/4 1916 1/4 1916 1/4 1/4 1916 1/4	Ref.No.	Part No.	Description	Ref.No	Part No.	Description
R838 1-249-43-11				R916	1-249-424-11	CARBON 3.9K 5% 1/4W
1-249-436-11 CARBON 287 57 1/44 893 1-249-436-11 CARBON 278 57 1/44 893 1-249-436-11 CARBON 470K 58 1/44 893 1-249-436-11 CARBON 278 278 1/44 893 1-249-436-11 CARBON	R833	1-249-433-11			1-249-419-11	CARBON 1.5K 5% 1/4W
R855 1-247-895-00 (IRT IOES, WRBI DE EXCEPT FOR US) R863 1-249-430-11 CARBON 12K 5% 1/4W R863 1-249-430-11 CARBON 22D 37 4 4 893 1-249-430-11 CARBON 22D 37 4 8 8 1 249-430-11 CARBON 22D 37 4 8 8 2 2 2 2 2 2 2 2	R834	1-249-436-11	(WR10ES, WR810: EXCEPT FOR US)	R919		
R863 -249-43-61-1 CARBON 39K 51 1/4M R863 1-249-43-1 CARBON 470K 55 1/4M R863 1-249-43-6 CARBON 470K 55 1/4M R864 1-249-43-1 CARBON 100K 55 1/4M R864 1-249-44-1 CARBON 100K 55 1/4M R864 1-249-43-1 CARBON 100K 55 1/4M R865 1-249-42-1 CARBON 100K 55 1/4M R866 1-249-43-1 CARBON 100K 55 1/4M R866 1-249-43-3 CARBON 100K 55 1/4M R866 1-249-43-1 CARBON 100K 55 1/4M R866 1-249-43-3 CARBON 100K 55 1/4M R866 1-249-43-1 CARBON	R835	1-247-895-00	(WR10ES, WR810: EXCEPT FOR US)	1/4W R922		
R889 1-249-433-11 (WRIDES,WRBIDEKKEPT FOR US)				R932	1-249-409-11	CARBON 220 5% 1/4W
R830 -249-435-11 (WRIDES, WRED LOERDY 1 ST 1/4W R850 1-249-441-11 CARBON 100K 5% 1/4W R850 1-249-441-11 CARBON 100K 5% 1/4W R851 1-249-441-11 CARBON 100K 5% 1/4W R851 1-249-441-11 CARBON 100K 5% 1/4W R851 1-249-421-11 CARBON 100K 5% 1/4W R861 1-249-431-11 CARBON 100K 5% 1/4W R862 1-249-431-11 CARBON 100K 5% 1/4W R862 1-249-431-11 CARBON 100K 5% 1/4W R862 1-249-431-11 CARBON 100K 5% 1/4W R863 1-249-431-11 CARBON 100K 5% 1/4W R863 1-249-431-11 CARBON 100K	R838	1-249-433-11		R951	1-247-903-00	CARBON 1M 5% 1/4W
R840 1-247-895-00 (WRIGES, WRBIOLEXCEPT FOR US)	R839	1-249-436-11	(WR10ES, WR810: EXCEPT FOR US)	·		·
R842 -249-447-11 CARBON IK 5% 1/4W R957 1-249-429-11 CARBON 0.5% 1/4W R964 1-249-433-11 CARBON 0.5% 1/4W R966 1-249-441-11 CARBON 0.5% 1/4W R966 1-249-431-11 CARBON 0.5% 1/4W R966 1-249-431-11 CARBON 0.2% 5% 1/4W R967 1-249-431-11 CARBON 0.2% 5% 1/4W R968 1-249-433-11 CARBON 0.2% 5% 1/4W R968 1-249-433-11 CARBON 0.2% 5% 1/4W R969 1-228-939-00 RES, ADJ, CARBON 10K (REC LEV R865 1-249-425-11 CARBON 4.7% 5% 1/4W R969 1-228-939-00 RES, ADJ, CARBON 10K (REC LEV R866 1-249-433-11 CARBON 4.7% 5% 1/4W R969 1-228-939-00 RES, ADJ, CARBON 10K (REC LEV R866 1-249-425-11 CARBON 680 5% 1/4W R960 1-228-939-00 RES, ADJ, CARBON 10K (REC LEV R866 1-249-425-11 CARBON 680 5% 1/4W R960 1-228-939-00 RES, ADJ, CARBON 10K (REC LEV R866 1-249-425-11 CARBON 680 5% 1/4W R960 1-228-939-00 RES, ADJ, CARBON 10K (REC LEV R866 1-249-425-11 CARBON 680 5% 1/4W R960 1-249-427-11 CARBON 680 5% 1/4W R960 1-249-429-11 CARBON 680 5% 1/4W R960 1-249-429-11 CARBON 680 5% 1/4W S960 1-554-303-21 SMITCH, LEAF (REGE SHOOP) 1.249-429-11 CARBON 1.6% 5% 1/4W S960 1-554-303-21 SMITCH, KEY BOARD (REV:A) 1.249-429-11 CARBON 680 5%	R840	1-247-895-00	(WRIDES, WR810: EXCEPT FOR US)	R954	1-249-430-11	CARBON 12K 5% 1/4W
R846 -249-417-11 CARBON 1K 5% 1/4W R940 1-249-43-11 CARBON 100K 5% 1/4W R849 1-249-43-11 CARBON 1K 5% 1/4W R940 1-249-433-11 CARBON 2K 5% 1/4W R940 1-249-433-11 CARBON 2K 5% 1/4W R941 1-229-990-00 RES, ADJ, CARBON 1K 1/2W R941 1-239-990-00 RES, ADJ, CARBON 1K 1/2W R941 1-239-990-00 RES, ADJ, CARBON 1K 1/4W R941	R842	1-249-417-11	CARBON 1K 5% 1/4W	R957	1-249-429-11	CARBON 10K 5% 1/4W
R860 -249-433-11 CARBON 22 53 1/4W R961 -228-990-00 RES. ADJ. CARBON 22K (REC BIA R852 -249-417-11 CARBON 1 53 1/4W R962 1-229-940-00 RES. ADJ. CARBON 22K (REC BIA R853 1-249-433-11 CARBON 1 53 1/4W R962 1-228-994-00 RES. ADJ. CARBON 10K (REC LEV R854 1-249-433-11 CARBON 1 53 1/4W R9701 1-228-994-00 RES. ADJ. CARBON 10K (REC LEV R855 1-249-433-11 CARBON 22K 53 1/4W R9201 1-228-994-00 RES. ADJ. CARBON 10K (REC LEV R856 1-249-433-11 CARBON 22K 53 1/4W R9201 1-228-994-00 RES. ADJ. CARBON 10K (REC LEV R856 1-249-425-11 CARBON 4.7K 53 1/4W R9501 1-238-138-11 RES. VAR. CARBON 50K/50K (RAL R858 1-249-425-11 CARBON 4.7K 53 1/4W R9501 1-238-139-11 RES. VAR. CARBON 50K/50K (RAL R856 1-249-415-11 CARBON 680 53 1/4W R9502 1-228-996-00 RES. ADJ. CARBON 47K (QUICK R866 1-249-415-11 CARBON 680 53 1/4W R9501 1-228-996-00 RES. ADJ. CARBON 47K (QUICK R866 1-249-433-11 CARBON 680 53 1/4W R9501 1-258-996-00 RES. ADJ. CARBON 47K (QUICK R866 1-249-433-11 CARBON 680 53 1/4W R9501 1-258-996-00 RES. ADJ. CARBON 47K (QUICK R866 1-249-433-11 CARBON 680 53 1/4W R9501 1-258-996-00 RES. ADJ. CARBON 47K (QUICK R866 1-249-433-11 CARBON 1 1/4W 11 1-517-281-21 SMITCH, LEAF (ERASE PROOF:SID 1/4W 1 1-157-281-21 SMITCH, LEAF (ERASE PROOF:SID 1/4W 1 1-157-281-21 SMITCH, LEAF (ERASE PROOF:SID 1-249-40-01-11 CARBON 1 1 1 1 1 1 1 1 1	R846	1-249-417-11	CARBON 1K 5% 1/4W	R960	1-249-441-11	CARBON 100K 5% 1/4W
R851 1-249-421-11 CARBON 2.2K 5% 1/4W R852 1-249-437-11 CARBON 1K 675 1/4W R853 1-249-433-11 CARBON 1K 675 1/4W R855 1-249-433-11 CARBON 1K 5% 1/4W R855 1-249-437-11 CARBON 1K 5% 1/4W R855 1-249-437-11 CARBON 1K 5% 1/4W R856 1-249-433-11 CARBON 2ZK 5% 1/4W R856 1-249-433-11 CARBON 2K 5% 1/4W R856 1-249-425-11 CARBON 4.7K 5% 1/4W R856 1-249-425-11 CARBON 680 5% 1/4W R866 1-249-433-11 CARBON 680 5% 1/4W R866 1-249-433-11 CARBON 680 5% 1/4W R866 1-249-433-11 CARBON 2K 5% 1/4W S12 1-551-281-21 SWITCH, LEAF (EASE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EASE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (EARE PROOF:SID R8701 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, KEY BOARD (FBC:A) S10 1-249-429-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, KEY BOARD (FBC:A) S10 1-249-4	R849	1-249-433-11	CARBON 22K 5% 1/4W			RES, ADJ, CARBON 1K (PB LEVEL L) RES, ADJ, CARBON 22K (REC BIAS L)
R853 1-249-425-11 CARBON	R851	1-249-421-11	CARBON 2.2K 5% 1/4W			RES, ADJ, CARBON 1K (PB LEVEL R) RES, ADJ, CARBON 22K (REC BIAS R)
R855 1-249-437-11 CARBON 1K 5% 1/4W R8202 1-228-994-00 RES, ADJ, CARBON 10K (REC LEV R856 1-249-435-11 CARBON 22 5% 1/4W R8202 1-228-911 CARBON 680 5% 1/4W R859 1-249-425-11 CARBON 4.7K 5% 1/4W R865 1-249-425-11 CARBON 680 5% 1/4W R865 1-249-415-11 CARBON 680 5% 1/4W R862 1-249-415-11 CARBON 680 5% 1/4W R863 1-249-415-11 CARBON 680 5% 1/4W R863 1-249-415-11 CARBON 680 5% 1/4W R863 1-249-415-11 CARBON 680 5% 1/4W R865 1-249-415-11 CARBON 680 5% 1/4W R865 1-249-433-11 CARBON 22K 5% 1/4W S12 1-551-281-21 SWITCH, LEAF (HALF DET) R865 1-249-433-11 CARBON 22K 5% 1/4W S12 1-571-281-21 SWITCH, LEAF (ERASE PROOF:SID R867 1-249-437-11 CARBON 10K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (ERASE PROOF:SID R870 1-249-427-11 CARBON 10K 5% 1/4W S15 1-551-281-21 SWITCH, LEAF (ERASE PROOF:SID R871 1-249-429-11 CARBON 10K 5% 1/4W S15 1-551-281-21 SWITCH, LEAF (CFO2) R870 1-249-429-11 CARBON 10K 5% 1/4W S15 1-551-281-21 SWITCH, LEAF (REC SW) R871 1-249-429-11 CARBON 10K 5% 1/4W S701 1-554-303-21 SWITCH, LEAF (REC SW) S701 1-554-303-21 SWITCH, KEY BOARD (REC HUTE: A S702 1-564-303-21 SWITCH, KEY BOARD (REC HUTE: A S702 1-554-303-21 SWITCH, KEY BOARD (REC HUTE: A S703 1-554-303-21 SWITCH, KEY BOARD (REC HUTE: A S703 1-249-429-11 CARBON 10K 5% 1/4W S701 1-554-303-21 SWITCH, KEY BOARD (REC: A) S701 1-554-303-21 SWITCH, KEY BOARD (REC: A) S701 1-554-303-21 SWITCH, KEY BOARD (REC: B) S701 1-554-303-21 S	R853	1-249-433-11	CARBON 22K 5% 1/4W			
R858 1-249-425-11 CARBON 4.7K 5% 1/4W R859 1-249-425-11 CARBON 4.7K 5% 1/4W R869 1-249-415-11 CARBON 680 5% 1/4W R862 1-249-415-11 CARBON 680 5% 1/4W R863 1-249-415-11 CARBON 680 5% 1/4W R863 1-249-415-11 CARBON 680 5% 1/4W R866 1-249-433-11 CARBON 22K 5% 1/4W S11 1-515-614-11 RELAY R866 1-249-433-11 CARBON 22K 5% 1/4W S12 1-571-281-21 SMITCH, LEAF (ERASE PROOF:SID R867 1-249-417-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SMITCH, LEAF (ERASE PROOF:SID R870 1-249-417-11 CARBON 1K 5% 1/4W S14 1-571-281-21 SMITCH, LEAF (ERASE PROOF:SID R871 1-249-429-11 CARBON 10K 5% 1/4W S15 1-571-281-21 SMITCH, LEAF (ERASE PROOF:SID R872 1-249-429-11 CARBON 10K 5% 1/4W S70 1-553-336-21 SMITCH, LEAF (ERASE PROOF:SID R870 1-249-429-11 CARBON 10K 5% 1/4W S70 1-553-336-21 SMITCH, LEAF (ERASE PROOF:SID R870 1-249-407-11 CARBON 10K 5% 1/4W S70 1-553-336-21 SMITCH, LEAF (ERASE PROOF:SID R870 1-249-409-11 CARBON 10K 5% 1/4W S70 1-553-303-21 SMITCH, LEAF (RECSW) S901 1-249-407-11 CARBON 20 5% 1/4W S901 1-259-407-11 CARBON 20 5% 1/4W S901 1-554-303-21 SMITCH, KEY BOARD (STOP:A) R902 1-249-413-11 CARBON 470 5% 1/4W S904 1-554-303-21 SMITCH, KEY BOARD (FEC:A) S905 1-249-415-11 CARBON 30 5% 1/4W S904 1-554-303-21 SMITCH, KEY BOARD (FEC:A) S905 1-249-421-11 CARBON 30 5% 1/4W S906 1-249-413-11 CARBON 30 5% 1/4W S906 1-249-421-11 CARBON 30 5% 1/4W S907 1-554-303-21 SMITCH, KEY BOARD (FEC:A) S909 1-249-407-11 CARBON 30 5% 1/4W S907 1-554-303-21 SMITCH, KEY BOARD (FEC:A) S909 1-249-407-11 CARBON 30 5% 1/4W S906 1-249-413-11 CARBON 30 5% 1/4W S907 1-554-303-21 SMITCH, KEY BOARD (FEC:B) S910 1-554-303-21 SMITCH, KEY BOARD (FEC:B) S910 1-554-303-21 SMITCH, KEY BOARD (FEC:B) S910 1-554-303-21 SMITCH, KEY BOARD (FEC:B) S911 1-249-407-11 CARBON 30 5% 1/4W S906 1-554-303-21 SMITCH, KEY BOARD (FEC:B) S911 1-249-407-11 CARBON 30 5% 1/4W S907 1-554-303-21 SMITCH, KEY BOARD (FEC:B) S911 1-249-407-11 CARBON 30 5% 1/4W S907 1-554-303-21 SMITCH, KEY BOARD (FEC:B) S911 1-249-407-11 CARBON 30 5% 1/4W S907 1-554-303-21 SMITCH, KEY BOARD (FEC:B) S911 1-249-407-11 CARBO	R855	1-249-417-11	CARBON 1K 5% 1/4W			
R861 1-249-415-11 CARBON 680 5% 1/4W R863 1-249-415-11 CARBON 680 5% 1/4W R863 1-249-415-11 CARBON 680 5% 1/4W R864 1-249-413-11 CARBON 470 5% 1/4W R865 1-249-433-11 CARBON 1 K 5% 1/4W R868 1-249-433-11 CARBON 1 K 5% 1/4W R868 1-249-433-11 CARBON 1 K 5% 1/4W R870 1-249-417-11 CARBON 1 K 5% 1/4W R870 1-249-417-11 CARBON 1 K 5% 1/4W R871 1-571-281-21 SWITCH, LEAF (ERASE PROOF:SID SID SID SID SID SID SID SID SID SID	R858	1-249-425-11	CARBON 4.7K 5% 1/4W			RES, VAR, CARBON 50K/50K (BALANCE) RES, VAR, CARBON 20K/20K (REC LEVEL)
R863 1-249-415-11 CARBON 680 5% 1/4W R864 1-249-413-11 CARBON 22K 5% 1/4W R865 1-249-433-11 CARBON 1 K 5% 1/4W R868 1-249-433-11 CARBON 22K 5% 1/4W R868 1-249-433-11 CARBON 1 K 5% 1/4W R870 1-249-417-11 CARBON 1 K 5% 1/4W R871 1-249-417-11 CARBON 1 K 5% 1/4W R871 1-249-429-11 CARBON 1 K 5% 1/4W R872 1-249-429-11 CARBON 1 IOK 5% 1/4W R873 1-249-429-11 CARBON 1 IOK 5% 1/4W R874 1-249-407-11 CARBON 1 IOK 5% 1/4W R875 1-249-409-11 CARBON 220 5% 1/4W R870 1-249-409-11 CARBON 220 5% 1/4W R890 1-249-411-11 CARBON 30 5% 1/4W R901 1-249-411-11 CARBON 470 5% 1/4W R902 1-249-411-11 CARBON 680 5% 1/4W R903 1-249-411-11 CARBON 1 IOK 5% 1/4W R904 1-249-411-11 CARBON 1 IOK 5% 1/4W R905 1-249-410-11 CARBON 1 IOK 5% 1/4W R906 1-249-417-11 CARBON 1 IOK 5% 1/4W R909 1-249-410-11 CARBON 1 IOK 5% 1/4W R909 1-249-410-11 CARBON 1 IOK 5% 1/4W R909 1-249-410-11 CARBON 1 IOK 5% 1/4W R909 1-249-417-11 CARBON 1 IOK 5% 1/4W R909 1-249-407-11 CARBON 1 IOK 5% 1/4W R901 1-249-417-11 CARBON 1 IOK 5	R861	1-249-415-11	CARBON 680 5% 1/4W	l l		
R865 1-249-433-11 CARBON 1K 5% 1/4W S13 1-571-281-21 SWITCH, LEAF (ERASE PROOF:SID R870 1-249-417-11 CARBON 1K 5% 1/4W S15 1-571-281-21 SWITCH, LEAF (ERASE PROOF:SID R870 1-249-429-11 CARBON 1K 5% 1/4W S15 1-571-281-21 SWITCH, LEAF (METAL) R871 1-249-429-11 CARBON 10K 5% 1/4W S701 1-553-336-21 SWITCH, LEAF (METAL) R873 1-249-429-11 CARBON 10K 5% 1/4W S701 1-553-336-21 SWITCH, PUSH (POWER) R873 1-249-429-11 CARBON 150 5% 1/4W S705 1-571-028-11 SWITCH, LEAF (REC SW) R901 1-249-409-11 CARBON 220 5% 1/4W S901 1-554-303-21 SWITCH, LEAF (REC SW) S901 1-554-303-21 SWITCH, KEY BOARD (STOP:A) R903 1-249-415-11 CARBON 470 5% 1/4W S904 1-554-303-21 SWITCH, KEY BOARD (REC:A) R906 1-249-417-11 CARBON 1.8K 5% 1/4W S907 1-249-420-11 CARBON 1.8K 5% 1/4W S907 1-249-420-11 CARBON 3.9K 5% 1/4W S908 1-249-420-11 CARBON 1.8K 5% 1/4W S909 1-554-303-21 SWITCH, KEY BOARD (REC:A) R909 1-249-409-11 CARBON 3.9K 5% 1/4W S909 1-554-303-21 SWITCH, KEY BOARD (REC:A) S909 1-554-303-21 SWITCH, KEY BOARD (REC:B) S913 1-249-413-11 CARBON 30 5% 1/4W S905 1-554-303-21 SWITCH, KEY BOARD (REC:B) S913 1-554-303-21 SWITCH, KEY BOARD (REC:B) S91				RY81	1-515-614-11	RELAY
R870 1-249-417-11 CARBON 1K 5% 1/4W 870 1-553-336-21 SWITCH, LEAF (METAL) 870 1 1-553-336-21 SWITCH, PUSH (POWER) 870 1 1-553-303-21 SWITCH, PUSH (POWER) 870 1 1-553-303-21 SWITCH, PUSH (POWER) 870 1 1-553-303-21 SWITCH, PUSH (POWER) 870 1 1-554-303-21 SWITCH, PUSH (POWER) 870 1 1-554	R865	1-249-433-11	CARBON 22K 5% 1/4W	\$12	1-571-281-21	SWITCH, LEAF (ERASE PROOF:SIDE A)
R873 1-249-429-11 CARBON 10K 5% 1/4W 8701 1-249-407-11 CARBON 150 5% 1/4W 8702 1-249-409-11 CARBON 220 5% 1/4W 8702 1-249-409-11 CARBON 220 5% 1/4W 8703 1-249-411-11 CARBON 330 5% 1/4W 8705 1-249-415-11 CARBON 680 5% 1/4W 8705 1-249-415-11 CARBON 1K 5% 1/4W 8707 1-249-420-11 CARBON 1.8K 5% 1/4W 8707 1-249-420-11 CARBON 3.9K 5% 1/4W 8709 1-249-420-11 CARBON 3.9K 5% 1/4W 8701 1-249-407-11 CARBON 220 5% 1/4W 8701 1-249-411-11 CARBON 330 5% 1/4W 8701 1-249-411-11 CARBON 330 5% 1/4W 8701 1-249-417-11 CARBON 3.9K 5% 1/4W 8701 1-249-417-11 CARBON 3.9K 5% 1/4W 8701 1-249-417-11 CARBON 3.9K 5% 1/4W 8701 1-249-417-11 CARBON 330 5% 1/4W 8701	R870 R871	1-249-417-11 1-249-429-11	CARBON 1K 5% 1/4W CARBON 1OK 5% 1/4W	S15	1-571-281-21	SWITCH, LEAF (METAL)
R903 1-249-411-11 CARBON 330 5% 1/4W R904 1-249-413-11 CARBON 680 5% 1/4W R905 1-249-415-11 CARBON 680 5% 1/4W R907 1-249-420-11 CARBON 1.8K 5% 1/4W R908 1-249-420-11 CARBON 3.9K 5% 1/4W R909 1-249-420-11 CARBON 220 5% 1/4W R910 1-249-409-11 CARBON 220 5% 1/4W R911 1-249-411-11 CARBON 330 5% 1/4W R911 1-249-411-11 CARBON 330 5% 1/4W R911 1-249-417-11 CARBON 330 5% 1/4W R912 1-249-415-11 CARBON 680 5% 1/4W R914 1-249-417-11 CARBON 680 5% 1/4W R914 1-249-417-11 CARBON 1K 5% 1/4W R915 1-554-303-21 SWITCH, KEY BOARD (REC:B) R914 1-249-417-11 CARBON 1K 5% 1/4W R915 1-554-303-21 SWITCH, KEY BOARD (REC:B) R914 1-249-417-11 CARBON 1K 5% 1/4W R915 1-554-303-21 SWITCH, KEY BOARD (REC:B) R914 1-249-417-11 CARBON 1K 5% 1/4W R915 1-554-303-21 SWITCH, KEY BOARD (REC:B) R914 1-249-417-11 CARBON 1K 5% 1/4W R915 1-554-303-21 SWITCH, KEY BOARD (REC:B) R916 1-554-303-21 SWITCH, KEY BOARD (REC:B) R917 1-554-303-21 SWITCH, KEY BOARD (REC:B) R918 1-554-303-21 SWITCH, KEY BOARD (REC:B) R919 1-554-303-	R873 R901	1-249-429-11 1-249-407-11	CARBON 10K 5% 1/4W CARBON 150 5% 1/4W	\$705	1-571-028-11	
R906 1-249-417-11 CARBON 1K 5% 1/4W S906 1-554-303-21 SWITCH, KEY BOARD (REV:A) R907 1-249-424-11 CARBON 1.8K 5% 1/4W S907 1-554-303-21 SWITCH, KEY BOARD (REW:A) R908 1-249-424-11 CARBON 3.9K 5% 1/4W S908 1-249-407-11 CARBON 220 5% 1/4W S908 1-554-303-21 SWITCH, KEY BOARD (FF:A) R910 1-249-409-11 CARBON 220 5% 1/4W S909 1-554-303-21 SWITCH, KEY BOARD (FF:A) S909 1-554-303-21 SWITCH, KEY BOARD (FF:A) S910 1-554-303-21 SWITCH, KEY BOARD (PAUSE:B) R911 1-249-413-11 CARBON 330 5% 1/4W S912 1-554-303-21 SWITCH, KEY BOARD (REC:B) R913 1-249-415-11 CARBON 680 5% 1/4W S912 1-554-303-21 SWITCH, KEY BOARD (REC:B) R914 1-249-417-11 CARBON 1K 5% 1/4W S912 1-554-303-21 SWITCH, KEY BOARD (REC:B) S913 1-554-303-21 SWITCH, KEY BOARD (REV:B) S913 1-554-303-21 SWITCH, KEY BOARD (REC:B) S913 1-554-303-21 SWITCH, KEY BOARD (REC:B) S913 1-554-303-21 SWITCH, KEY BOARD (REC:B) S913 1-554-303-21 SWITCH, KEY BOARD (REV:B) S914 1-249-417-11 CARBON 1K 5% 1/4W S905 1-554-303-21 SWITCH, KEY BOARD (REV:B) S915 1-554-303-21 SWITCH, KEY BOARD (REV:B) S916 1-554-303-21 SWITCH, KEY BOARD (REV:B) S917 1-554-303-21 SWITCH, KEY BOARD (REV:B) S918 1-554-303-21 SWITCH, KEY BOARD (REV:B) S919 1-554-303-21 SWITCH, KEY BOARD (REV:B	R903	1-249-411-11 1-249-413-11	CARBON 330 5% 1/4W CARBON 470 5% 1/4W	\$903	1-554-303-21	SWITCH, KEY BOARD (REC MUTE:A)
R908 1-249-424-11 CARBON 3.9K 5% 1/4W R909 1-249-407-11 CARBON 150 5% 1/4W R910 1-249-409-11 CARBON 220 5% 1/4W R911 1-249-411-11 CARBON 330 5% 1/4W R912 1-249-413-11 CARBON 470 5% 1/4W R913 1-249-415-11 CARBON 680 5% 1/4W R914 1-249-417-11 CARBON 1K 5% 1/4W R916 1-249-417-11 CARBON 680 5% 1/4W R917 1-249-417-11 CARBON 680 5% 1/4W R918 1-554-303-21 SWITCH, KEY BOARD (FE: A) S909 1-554-303-21 SWITCH, KEY BOARD (FE: A) S910 1-554-303-21 SWITCH, KEY BOARD (REC MUTE: B) S911 1-554-303-21 SWITCH, KEY BOARD (REC MUTE: B) S912 1-554-303-21 SWITCH, KEY BOARD (REC: B) S913 1-554-303-21 SWITCH, KEY BOARD (REC: B) S914 1-249-417-11 CARBON 1K 5% 1/4W S915 1-554-303-21 SWITCH, KEY BOARD (REC: B) S916 1-554-303-21 SWITCH, KEY BOARD (REC: B) S917 1-554-303-21 SWITCH, KEY BOARD (REC: B) S918 1-554-303-21 SWITCH, KEY BOARD (REC: B) S919 1-554-303-21 SWITCH, KEY BOARD (REC: B) S910 1-554-303-21 SWITCH, KEY BOARD (REC: B) S911 1-554-303-21 SWITCH, KEY BOARD (REC: B) S912 1-554-303-21 SWITCH, KEY BOARD (REC: B) S913 1-554-303-21 SWITCH, KEY BOARD (REC: B) S914 1-554-303-21 SWITCH, KEY BOARD (REC: B) S915 1-554-303-21 SWITCH, KEY BOARD (REC: B) S916 1-554-303-21 SWITCH, KEY BOARD (REC: B) S917 1-554-303-21 SWITCH, KEY BOARD (REC: B) S918 1-554-303-21 SWITCH, KEY BOARD (REC MUTE: B) S919 1-554-303-21 SWITCH, KEY BOARD (REC MUTE: B) S910 1-554-303-21 S	R906	1-249-417-11	CARBON 1K 5% 1/4W	\$906	1-554-303-21	SWITCH, KEY BOARD (FWD:A)
R909 1-249-407-11 CARBON 150 5% 1/4W R910 1-249-409-11 CARBON 220 5% 1/4W R911 1-249-411-11 CARBON 330 5% 1/4W R912 1-249-413-11 CARBON 470 5% 1/4W R913 1-249-415-11 CARBON 680 5% 1/4W R914 1-249-417-11 CARBON 1K 5% 1/4W R914 1-249-417-11 CARBON 1K 5% 1/4W R916 1-249-417-11 CARBON 1K 5% 1/4W R917 1-554-303-21 SWITCH, KEY BOARD (REC.B) S910 1-554-303-21 SWITCH, KEY BOARD (REC.B) S911 1-554-303-21 SWITCH, KEY BOARD (REC.B) S913 1-554-303-21 SWITCH, KEY BOARD (REC.B) S914 1-249-417-11 CARBON 1K 5% 1/4W Note: The components identified by mark ♠ or dotted line with mark ♠ are critical for safety. Note: Les composants identified by mark ♠ or dotted line with mark ♠ or dotted line with mark ♠ Note: Note: Note: Les composants identified by mark ♠ or dotted line with mark ♠ or dotted line with mark ♠ Note: Note: Note: Les composants identified by mark ♠ or dotted line with mark ♠ Note: Note: Note: Note: Note: Les composants identified by mark ♠ or dotted line with mark ♠ Note: Note: Note: Note: Note: Les composants identified by mark ♠ or dotted line with mark ♠ Note: Not				\$908	1-554-303-21	
R912 1-249-413-11 CARBON 470 5% 1/4W R913 1-249-415-11 CARBON 680 5% 1/4W R914 1-249-417-11 CARBON 1K 5% 1/4W Note: The components identified by mark ↑ or dotted line with mark ↑ are critical for safety. Note: Note: Les composants identified by mark ↑ or dotted line with mark ↑ Note: are critical for safety. Ne les remplacer que	R910	1-249-409-11	CARBON 220 5% 1/4W	\$910	1-554-303-21	SWITCH, KEY BOARD (PAUSE:B)
The components identified by mark A or dotted line with mark pour la sécurité. are critical for safety. Les composants ident une marque A sont pour la sécurité. Ne les remplacer que	R912 R913	1-249-415-11	CARBON 680 5% 1/4W	\$912	1-554-303-21	
Replace only with part number specified. pièce portant le numé fié.					The compone fied by mark ted line with are critical for Replace only	Les composants identifiés par une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spéci-

TC-WR10ES/WR810

Ref.No.	Part No.	Description
S915	1-554-303-21 1-554-303-21 1-554-303-21	SWITCH, KEY BOARD (FWD:B) SWITCH, KEY BOARD (REW:B) SWITCH, KEY BOARD (FF:B)
S917 S918 S919	1-554-303-21 1-554-303-21 1-554-303-21	SWITCH, KEY BOARD (RESET) SWITCH, KEY BOARD (MEMORY) SWITCH, KEY BOARD (A/B)
S921 S922 S931	1-570-837-11 1-570-837-11 1-554-303-21	SWITCH, SLIDE (TIMER) SWITCH, SLIDE (DIRECTION MODE) SWITCH, KEY BOARD (AMS/BLANK SKIP)
S932 S933 S934	1-554-303-21 1-554-303-21 1-554-303-21	SWITCH, KEY BOARD (HIGH SPEED) SWITCH, KEY BOARD (NORMAL SPEED) SWITCH, KEY BOARD (A+B REC)
S941 S942	1-570-837-11 1-570-849-11	SWITCH, SLIDE (DOLBY NR) SWITCH, SLIDE (MPX FILTER)
	1-235-186-00 1-235-186-00	ENCAPSULATED COMPONENT ENCAPSULATED COMPONENT
T71	1-433-335-11 1-433-335-11 1-433-336-11	TRANSFORMER, BIAS OSCILLATION TRANSFORMER, BIAS OSCILLATION TRANSFORMER, BIAS OSCILLATION
T701 🚹	. 1-449-460-11 . 1-449-461-11 . 1-449-614-11	
TP91 TP801	*1-564-338-00 *1-564-508-11 *1-564-505-11 *1-564-507-11	PIN, CONNECTOR 4P PLUG, CONNECTOR 5P PLUG, CONNECTOR 2P (TEST) PLUG, CONNECTOR 4P (QUICK)
X801 X951	1-567-686-11 1-567-771-11	OSCILLATOR, CERAMIC (4MHz) VIBRATOR, CERAMIC (6MHz)

ACCESSORT	Œ	PACKING	MAIERIAL	

1-559-533-11 1-463-974-11	CORD, CONNECTION (WR810:AEP,UK,E)REMOTE COMMANDER (RM-900W)
*3-349-028-21 3-349-028-31	(WR810)INDIVIDUAL CARTON (WR10ES)INDIVIDUAL CARTON
*3-349-029-01 3-703-450-01	CUSHION INSTRUCTION
3-750-133-11	(WR810:Canadian,AEP,UK,E)
3-750-133-21 3-750-133-41	(WR810:US)MANUAL, INSTRUCTION (WR810:AEP)MANUAL, INSTRUCTION
3-750-133-51 3-750-209-21	(WR810:West Germany)MANUAL, INSTRUCTION (WR10ES)MANUAL, INSTRUCTION

Note:
The components identified by mark not or dotted line with mark recritical for safety.
Replace only with part number specified.

Note:

Les composants identifiés par une marque A sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

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